Nutrition education programs for parents and caregivers of young children in the municipality of Kalayaan, Laguna

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Abstract

Malnutrition among young children remains a pressing concern in Kalayaan, Laguna. To address this issue, a Nutrition Education Program was implemented for parents and caregivers of children under five. This study assessed the program's effectiveness, children's nutritional status over a three-year period (2021–2023), and the perceptions and challenges experienced by participants. A descriptive research design was utilized, involving 105 respondents selected through stratified sampling. Data were gathered using structured questionnaires and secondary health records. Frequency and percentage were used to describe respondents' demographic profiles and children's nutritional status, while mean and standard deviation measured perceptions of the program. The Kruskal-Wallis H-test and Friedman test identified significant differences in perception and nutritional status over time. Findings revealed that most respondents were females aged 26–35, with a high school-level education. The majority of children consistently had normal weight-for-age, height-for-age, and weight-for-length/height. Overall, respondents strongly agreed with the program's effectiveness. However, notable barriers were identified, including poverty, difficulty in adapting to new dietary practices, and a lack of childcare support. Perception of the program varied significantly based on sex and age, and significant improvements were observed in weight-for-age and weight-for-length/height across the three years. Despite its generally positive impact, the program requires targeted enhancements to overcome existing barriers. Based on these findings, the enhanced nutrition education program "KAIN SUSTANSYA" was proposed to deliver tailored, accessible, and community-driven interventions. Continuous monitoring, policy integration, and inclusive strategies are recommended to sustain long-term improvements in child nutrition.

Keywords: Nutrition education program; malnutrition; young children

1. Introduction

The Nutrition Education Program (NEP) is defined by Contento as a combination of educational strategies, accompanied by environmental supports, designed to facilitate voluntary adoption of food choices and other food and nutrition-related behaviors conducive to health and well-being. Delivered through multiple venues involving activities at the individual, community, and policy levels, NEP's role in nutrition promotion and education has expanded from simply disseminating information to becoming a vehicle for behavior change. It employs varied strategies and involves different stakeholders.

NEP is vital in sustaining improvements in food and nutrition security. Numerous studies have shown that nutrition education effectively improves child growth. Majamanda's (2014) study demonstrated that community-based nutrition education improved the nutritional status of children under five in developing countries.

Since its inception in 1993, NEP has been included as a key intervention in the national nutrition plans, specifically the Philippine Plan of Action for Nutrition (PPAN). This plan aims to enable positive

behavioral changes in food eating habits and lifestyle among various age groups at the local level, thereby improving their nutritional status. The world is at a critical juncture with worsening malnutrition and hunger. In 2020 alone, approximately 811 million people suffered from malnutrition, indicating that we are far from the target to end hunger by 2030. UNICEF reported that more than half of all undernourished people (418 million) live in Asia, over a third (282 million) in Africa, and a smaller proportion (60 million) in Latin America and the Caribbean. The sharpest rise in hunger was observed in Africa. UNICEF recognizes the importance of good health and well-being for all It is so critical that it is included in the 17-point Sustainable Development Goals, which aim to improve people's lives by 2030. Despite significant progress in child and maternal health over the past decades, new challenges continue to cause millions of deaths among women and children. UNICEF works globally to keep children safe from preventable diseases through quality healthcare.

This problem of children's health exists both locally and globally. While many studies identify the most dreaded diseases and their effects on children, few focus on Nutrition Education Programs and the implementation of the Nutrition Office. Most studies address global efforts and assessments of the Department of Health's projects and mandates, with few examining localized efforts.

Recognizing the importance of good Nutrition Education Programs among parents and caregivers of young children in Kalayaan, Laguna, this study aimed to determine the perception of respondents on nutrition education programs, hindrances on its implementation, nutritional status of the young children under the program and propose enhancement based on the analysis of the variables.

1.1. *Background of the Study*

The first 5 years are critical for a child's physical, cognitive and emotional growth; nutrition being central at each stage. Healthy practices in early childhood feeding can result in better health outcomes such as increased immunity against diseases and reduced chronic illnesses worldwide. However, the challenge remains about how best parents and caregivers should be taught on appropriate nutritional strategies for children aged between 0-59 months globally. (National Library of Medicine, 2024)

Based on the records of the Nutrition Office, the municipality of Kalayaan in Laguna has undertaken a concerted effort to address the nutritional status of its youngest residents, evidenced by the rising numbers of children with significant health progress. Local Barangay Nutrition scholars cited that one of the major causes of continued malnutrition is that parents tend to divide the rations for the malnutrition child to all their children. Thus, the programmed food intake of the malnourished child is not achieved.

Like many other places, within the municipality nutrition have been found to greatly influence children's survival rates as well as their general welfare; thus indicating need for localized nutrition education programs of Kalayaan, Laguna malnutrition among young kids still poses a great public health problem together with inadequate eating behaviors during this period. (Mason, 2024)

It is important that we evaluate how efficient these programs are at equipping parents with information about the best practices when feeding their babies or taking care of them so as to meet desired outcomes. This evaluation is justified by international findings that indicate workshops which aim at increasing knowledge levels among caregivers have been successful in enhancing parenting abilities as well improving children's' developmental milestones (Frongillo, 2017)

Furthermore, keeping kids healthy and in school remains a multi-faceted approach that requires both education and supportive incentives as indicated by conditional cash transfer programs (Philippines: Conditional Cash Transfer Program on Track to Meet Goals of Keeping Children Healthy and in School, 2013). In addition, it is through educational institutions' role in cultivating good eating habits that we realize the need for holistic community involvement around different points within a child's environment (Rocha & Facina, 2017). This particular study seeks to evaluate current nutrition education programs being implemented for parents and caregivers in the municipality of Kalayaan, Laguna; doing so by looking into their design structure, delivery mode(s), accessibility levels as well as overall impacts vis-à-vis targeted population. The

results will therefore shed light on how effective these initiatives have been while also proposing areas which may require fine-tuning or enhancement so as to ensure they serve the needs of all people.

The goal of this study is to assess whether or not the Nutrition Education Program in Kalayaan, Laguna is effective. The researcher will look into the profile of the mother or caregiver, the severity of the state of the child's malnutrition. The researcher wanted to contribute more widely towards fighting malnourishment as well as complimenting international efforts against malnutrition starting with grassroots initiatives up-to worldwide awareness campaigns against this urgent matter.

1.2. Theoretical Framework

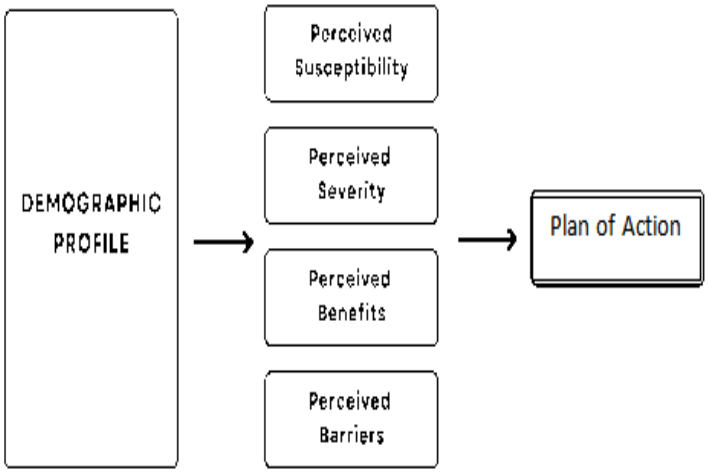

Figure 1. *The "Health Belief Model" as presented by Rosenstock (1974)*

The study is anchored to the Health Belief Model (HBM) of Rosenstock (1974), which emphasizes the role of individual beliefs in shaping health behaviors. This model posits that a person's likelihood of engaging in health-promoting behavior is influenced by several key factors. It was conceptualized to help understand the widespread failure of people to accept disease preventatives or screening tests for the early detection of asymptomatic disease. The model focuses on how individuals perceive health threats and decide to act based on the value individuals place on a particular goal and the likelihood that actions taken toward that goal will be successful in achieving the goal. Six primary structures that impact behavior, which are like dimensions, make up this approach. people consider their chance of getting the disease, how substantial it seems, how useful it would be to change, the barriers to doing so, how skilled they feel, and important reminders.

It stresses the need to understand what keeps parents and caregivers from acting on the cue to healthy food. Additionally, the model demonstrates how to make learned benefits clear to mothers and caregivers to help them participate in Nutritional Health Education.

1.3. Conceptual Framework

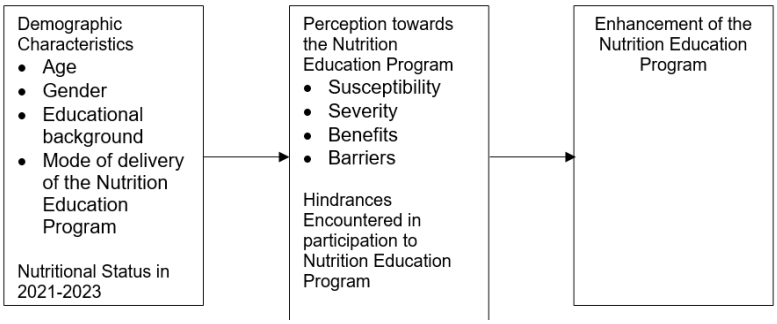

Figure 2. *Conceptual Framework of the Study*

This study uses the Health Belief Model (HBM) by Rosenstock (1974) as its main conceptual guide to learn about health behaviors and how people decide on them. Health Belief Model experts believe a person is more motivated to adopt healthy habits if they perceive they are at risk. Parents ought to realize that kids may suffer from health or nutritional concerns. The program teaches parents about these risks, hoping that parents will become more involved in making their child's meals healthier. If the issue is significant, the program will explain how unbalanced or unhealthy nutrition can cause growth problems along with becoming overweight and health problems. To raise parents' knowledge, the program concentrates on these matters. If taking action helps: The education provided will illustrate the benefits of adopting healthy eating practices for children by demonstrating how proper nutrition can lead to better health outcomes, the program aims to encourage parents to implement the learned practices. And if barriers can be overcome, the program will also address common barriers parents face in providing nutritious meals, such as cost, time constraints, and lack of knowledge. By providing practical solutions and resources, the program aims to reduce these barriers, making it easier for parents to adopt healthier practices.

By applying the HBM in this study, we anticipate that increased knowledge and awareness will lead to enhanced motivation among parents to prioritize nutrition in their children's diets, increased adoption of healthy eating behaviors and improved nutritional status and overall health of children aged 0-59 months in the Municipality of Kalayaan, Laguna.

1.4. Statement of the Problem

This study aimed to analyze the nutrition education program for parents and caregivers of young children in the municipality of Kalayaan, Laguna and propose enhancement to the program.

Specifically, the study sought to answer the following questions:

1. What is the demographic characteristics of the respondents participating in the Nutrition Education Program in terms of:
    - 1.1. age;
    - 1.2. gender;
    - 1.3. educational background; and
    - 1.4. mode of delivery of the Nutrition Education Program?
2. What is the nutritional status of the young children in Kalayaan, Laguna in the last three years (2021-2023)?
3. What is the perception of the respondents towards the Nutrition Education Program in terms of:
    - 3.1 susceptibility;
    - 3.2 severity;
    - 3.3 benefits; and
    - 3.4 barriers?

4. What are the hindrances encountered in their participation in the Nutrition Education Program?
5. Is there a significant difference in the perception of the respondents in the Nutrition Education Program as grouped according to profile?
6. Is there a significant difference in the nutritional status of the young children in the last 3 years?
7. Based on the result, what program enhancement maybe proposed?

1.5. Hypothesis

The following hypotheses were tested in the study:

- There is no significant difference in the perception of the respondents in the Nutrition Education Program as grouped according to profile.
- There is no significant difference in the nutritional status of the young children in the last 3 years.

1.6. Scope and Limitation

This study focuses on assessing the effectiveness of the Nutrition Education Program implemented in the Municipality of Kalayaan, Laguna. It covers all three barangays in the municipality, namely San Juan, Longos, and San Antonio. The study examines the nutritional status of children under five years old from the years 2021 to 2023, based on the records provided by the Municipal Nutrition Office.

A total of 105 respondents participated in the study, consisting of parents and caregivers of young children, with 35 respondents from each barangay. The participants were identified through the official records of the Nutrition Office, which included the names of parents or caregivers of children whose nutritional status was monitored during the covered period. Stratified sampling was employed to ensure equal representation from each barangay.

The data collection method used was a survey questionnaire, which gathered information on the respondents' demographic profile, their perception of the Nutrition Education Program, and the hindrances they encountered in relation to the program.

The study is limited to the municipality of Kalayaan and does not include data from other towns or cities. It is also confined to the years 2021 to 2023, and any developments in the program outside of this period are not included. In addition, the study is limited to respondents listed in the Municipal Nutrition Office records, which may not account for all parents or caregivers in the community. As the data relies on self-reported responses, the possibility of recall bias or subjective interpretation exists.

1.7. Significance of the Study

The evaluation of nutrition education programs for parents and caregivers of young children in Kalayaan, Laguna has important implications for various stakeholders, namely:

Children: The ultimate beneficiaries of this study are the children aged 0-59 months. Effective nutrition education for their parents and caregivers can lead to improved nutritional status, better health outcomes, and enhanced developmental prospects. This can reduce the prevalence of malnutrition-related issues such as stunting, wasting, and underweight conditions, ensuring a healthier future generation.

Parents and Caregivers: For parents and caregivers living in Kalayaan, Laguna this is an empowering study because it provides them with evidence-based knowledge and skills on how they should provide their children best nutrition. Such things help them to establish healthy eating behaviors among kids which contribute towards better growths as well as developments hence overall wellness improvement.

Nutrition Office of Kalayaan Laguna: This research directly guides the efforts of Nutrition Office of Kalayaan Laguna when it comes to creating, implementing and evaluating nutritional educational plans that

are responsive to the needs of the local community. In terms of effectiveness evaluation, strategies can be improved by nutrition office thus appropriate allocation of resources made while at the same time fostering collaboration with other players from around communities aimed at dealing with malnutrition among children during their early years besides encouraging healthy eating habits within them.

Department of Social Welfare and Development (DSWD): This research can inform the DSWD's initiatives by highlighting successful strategies and areas needing improvement in nutrition education programs. It supports the DSWD in refining their policies and interventions to better serve children and families, ensuring that their programs are evidence-based and effectively address malnutrition.

Workers and Employees: For workers and employees involved in nutrition programs, this study provides critical insights into the impact of their work. It can help them understand the effectiveness of their efforts, motivate them through tangible evidence of success, and identify areas where additional training or resources may be needed to enhance program delivery.

Students of PLSP: If you were to choose this research as an example of community research that has relevance for society at large, it will help guide young scientists who will be attending your graduate school in the future. In order to come up with solutions to real-life public health problems, individuals need hands-on experience carrying out studies like evaluating nutrition education programs located in Kalayaan, Laguna. What this study does is prepare students for post-graduation careers where they can use skills gained from program assessment training courses within the context of communities and evidence-based decision making applied towards public health as well other related fields.

Future Researchers: Considering other similar types of intervention methods concerning nutrition teaching, this investigation adds knowledge about such programs. It can be continued by future researchers through more complex understandings based on these findings including but not limited to: whether they work over a long period; if they are easily scalable or not and what ensures their sustainability. By doing so researchers will have enlarged the sphere of information here hence enabling invention new ways promoting global child health with particular attention paid to nutrition.

1.8. Definition of Terms

In order to ensure that there is a common understanding of the key or important terms in the study. The researcher clearly provided operational definitions for the following terms:

Caregivers: Care givers refer to people who look after kids; this however does not necessarily imply that it's only limited unto moms but also includes other relatives like grandmothers, aunts etc., foster homes' owners as well as daycare providers among others who play significant roles in ensuring child's welfare on daily basis.

Cues to Action triggers that encourage behavior change. The education sessions themselves serve as a cue, prompting parents to reflect on their dietary practices and consider making changes.

Demographic Profile: Details considered, like age, gender, ethnicity, socioeconomic status, education level, and other factors that paint a picture of who the study participants are and what makes them unique.

Dietary Habits: Personal food diary or meal schedule.

Effectiveness: This concept pertains to the extent to which nutrition education programs achieve their intended objectives and yield desired outcomes. Dietary Habits: These are patterns of food consumption and eating behaviors over time, encompassing types of foods, meal frequency, portion sizes, timing, preferences, and adherence to dietary guidelines or cultural practices. When evaluating these programs, we take into account how they affect what participants know, how they think, what they do, and their overall health.

Malnutrition: Malnutrition is when the intake of nutrients and what the body needs are not balanced resulting into poor health. It can be categorized as under nutrition which occurs when the body does not get enough vital elements or over nutrition caused by excessive uptake of nourishment. Thus making one to become overweight or obese.

Nutrition Education Programs: These programs comprise structured measures aimed at sharing understanding, competences, and conduct related to good eating practices and healthy living involving proper dieting. They seek to inform people about right meals while enabling them choose wisely among various types of foodstuffs either for themselves alone or their families as well as communities in general.
Nutritional Status: The state of someone's health in relation to what they eat is called their nutritional status. It's like taking a snapshot of their overall well-being by examining factors such as their height, weight, and blood test results for any nutritional deficiencies.
Parents: Parents here mean those individuals with the main duty of taking care for children; they may be biological fathers and mothers, legal guardianship holders or even adoptive parents.
Perceived Barriers addresses the obstacles that may prevent individuals from taking action. The program will identify common barriers faced by parents, such as financial constraints or lack of time, and provide practical solutions to overcome these challenges.
Perceived Benefits highlights the belief that taking a specific action will reduce the risk or severity of the health issue. By educating parents about the benefits of nutritious diets, the program aims to foster a positive attitude toward dietary changes, making them more likely to implement what they learn.
Perceived Severity involves beliefs about the seriousness of a health problem and its potential consequences. The program aims to convey the serious implications of inadequate nutrition, such as developmental delays and increased risk of chronic diseases, thereby reinforcing the importance of proper dietary practices.
Perceived Susceptibility refers to an individual's belief about their vulnerability to a health issue. In this study, it is essential for parents to recognize the risks associated with poor nutrition in their children, as this awareness can motivate them to seek out education and make healthier choices.
Young Children. This term encompasses infants, toddlers, and preschool-aged children from 0-59 months. It denotes a crucial developmental period, during which nutritional needs vary based on the child's age and developmental stage.

1.9. Review of Related Literature and Studies

This chapter presents a summary of relevant research and literature. It offers a concise summary of journals and other earlier research studies that are connected to the current topic, whether directly of indirectly. It focuses on elements that will assist in progressing the research.

Nutrition is a vital part of a person’s health and development. Better nutrition leads to improved infant, child and maternal health, stronger immune systems, safer pregnancy and childbirth, lower risk of non-communicable diseases and longevity. (WHO, 2025).

Malnutrition can mean under nutrition or over nutrition and can also indicate an imbalance of macro nutrients (proteins, carbohydrates, fats) or micro nutrients (vitamins and minerals). However, the population is more at risk of under nutrition due to limited financial resources and access to nutritious foods. Severe malnutrition not only affects physical health but also leads to long-term developmental problems among children, contributing significantly to the global disease burden and mortality rates. This issue is more severe in developing countries where financial limitations and lack of resources exacerbate the situation. Malnutrition during the critical phase of 0-59 months can have irreversible consequences on a child's growth, increasing the risk of morbidity and mortality.(WHO International, 2025)

Globally in 2022, 149 million children under 5 were estimated to be stunted (too short for age), 45 million were estimated to be wasted (too thin for height), and 37 million were overweight or living with obesity. (WHO International, 2025)

In the Philippines, the health sector faces significant challenges in malnutrition specifically stunting, wasting, macro-nutrient deficiencies, obesity and overweight. Malnutrition can mean under nutrition or over nutrition. It can also mean an imbalance of macro-nutrients (proteins, carbohydrates, fats) or micro-nutrients (vitamins and minerals). Micro-nutrient Over nutrition is uncommon and doesn’t occur from diet alone. But if

you take mega doses of certain supplements, it can have toxic effects. Macro-nutrient Over nutrition can cause enlarged fat cells are associated with chronic inflammation and an lead to NCDs such as diabetes mellitus, coronary artery disease and stroke. Protein-Energy Under nutrition, this is a deficiency of macro-nutrients: proteins, carbohydrates and fats. It causes breaking down tissues and shutting down nonessential functions to conserve its low energy. The World Health Organization has recently added over nutrition to its definition of malnutrition to recognize the detrimental health effects that can be caused by excessive consumption of nutrients. This includes the effects of overweight and obesity, which are strongly associated with a list of non-communicable diseases. (Cleveland Clinic, 2024).

Results of the 2021 National Nutrition Survey showed that stunting affects 28.8% of children under this stunting could be caused by chronic under nutrition, poor maternal health, and inadequate feeding practices. Wasting is present in 5.5% of children under 5 suffer from acute malnutrition, increasing vulnerability to infections while macro-nutrient deficiencies is caused by high prevalence of iron-deficiency anemia, vitamin A deficiency, and iodine deficiency disorders. And lastly, they also suffer from Obesity & Overweight. This is rising in urban areas of about 3.9% of children under 5 due to increased consumption of processed foods and sugary drinks.

Additionally, Sembene and Associates (2023) aimed to assess the characteristics associated with malnutrition in children in Senegal according to their nutritional status of the 94 children recruited, 51.06% were female, with a sex ratio (male/female) of 0.96. Acute malnutrition was recorded in 62.77% of cases, chronic malnutrition in 41.49%, and underweight in 71.27%. They found out that problems associated with malnutrition come from various factors. Dietary diversification, consanguinity, and low birth weight are some of these factors associated with malnutrition in children in Senegal. Thus, special attention must be paid to this problem because of its impact on child survival. Problems associated with malnutrition are multifactorial. Dietary diversification, consanguinity, and low birth weight are factors associated with malnutrition in children in Senegal. Thus, special attention must be paid to this problem because of its impact on child survival.

In Addition, Operation Timbang results over the past five years were retrieved by the researcher. The data revealed a fluctuating yet notable improvement in the nutritional health of children aged 0-59 months. In 2020, the figures were concerning with 11 children overweight, 27 underweight, 70 stunted, and 14 wasted out of a total of 1804. By 2024, significant progress was observed: the number of overweight children decreased to 7, underweight to 7, stunted to 12, and wasted to 5 out of a total of 1949. (Kalayaan MNAO, 2023)

Another important finding was that of Ramirez and Ducay (2021) who compared nutritional status of children across body mass indexes and identified factors affecting normal nutritional status of these children. behavior-related factors that significantly predict normal nutrition among the children were "acceptable" food consumption score among households (0 to 5 and 6 to 23 months old), delivery in health facilities (6 to 23 months old) and household use of water-sealed toilets (24 to 59 months).

The Philippine government in collaboration with NGOs, and international agencies implement nutrition education programs to improve child health. Among them are the First 1000 Days Program or the Kalusugan ng Mag-Nanay Act, RA 11148. It focuses on maternal and child nutrition from pregnancy to age. The local health workers or the Barangay Nutrition Scholar provides nutrition counseling, breastfeeding promotion, and complementary feeding education. They also organize supplementary feeding Program thru the Department of Social Welfare and Development - DSWD by providing fortified meals to daycare children to combat under nutrition Including nutrition education for parents on proper meal planning. Another project widely implemented by DepEd's Gulayan sa Paaralan Program is the school based nutrition education which integrates school gardening with nutrition lessons to promote vegetable consumption. This teaches children about balanced diets through school feeding programs. And lastly, the Nutrition School-on-the-Air (National Nutrition Council - NNC). This is a radio-based education for rural communities on child feeding, hygiene, and food preparation.

There are also projects whose main implementor is not the government. They are spearheaded by NGOs or International programs. Such projects include the Save the Children's "Lakambini" Project. This promotes breastfeeding, diversified diets, and hygiene in marginalized communities. UNICEF's Nutrition Advocacy & Behavior Change Campaigns, on the other hand, uses mass media (TV, social media) to educate families on proper child feeding and we also have the World Food Program (WFP) – Home-Grown School Feeding Links local farmers to schools to provide nutritious meals while teaching children about healthy eating.

While Glorios (2020) determined the effectiveness of nutrition education modules in improving children and their mothers' knowledge on food and nutrition. Likewise, changes in attitude and behavior among children were also determined. The developed nutrition education modules were effective in teaching children proper nutrition. Incorporation of these modules into the K to12 curriculum will emphasize the importance of proper nutrition in early childhood. Moreover, mothers' classes can be an effective way to bridge the gap between school and community nutrition interventions.

On the other hand, Anokye and Associates (2023) came to a similar conclusion while examining patients undergoing screening cardiovascular interventions. They found that these interventions encouraged individual confidence when engaging in beneficial health-related behaviors.

While, Prasetyo (2023) analyzed the effect of mothers' nutritional education and knowledge on children's nutritional status: a systematic review. Nutrition education has a significant impact on increasing maternal knowledge and children's nutritional status. Sharing various approaches can be done by providing nutrition education, brainstorming, and demonstrations. Nutritional health education methods and media can be in booklets, guidebooks, leaflets, and internet technology applications**.**

Parental nutrition education has been identified as a vital intervention in supporting the healthy development of infants and young children. According to Woźniak et al. (2022), a structured nutritional education program delivered to parents significantly improved the metabolic health markers of their infants. Results showed that supplying nutrition information to parents personally improved their knowledge and helped people in their family adopt improved ways of eating and handling food. The results agree with earlier research that indicates informed caregivers are more likely to act on their child's health concerns.

Based on the findings, early parental education improves both protective health habits and early support for children who may need extra help. As a result, the body mass index (BMI), blood glucose results, and general nutritional health got better for participating parents' infants. They confirm that giving informed care helps prevent major health problems and lower the risks caused by a child's malnutrition or obesity. What Woźniak et al. found in 2022 backs up the purpose of this study to assess how well nutrition education works for parents and caregivers. The results support investing in community-based ways to give caregivers the right, easy-to-use, and culturally appropriate knowledge about nutrition for young children.

School nutrition interventions may assist both students and members of their families. Abderbwih et al. (2022) found that such interventions at schools are able to boost parents' and caregivers' knowledge about nutrition and in several cases lead to better diet and health. The authors found that while the results on parents' diets were unclear, nearly all the studies reported that the included parents had learned more about healthy eating. Another pair of studies found decreases in parents' body mass index and blood pressure.

The authors pointed out that getting parents involved with healthy snacks in the home or giving them tasks they can do with their children might increase the overall impact of the health program. Often, programs that involved children as main participants without parents improved nutrition among the family, in part because children can share the knowledge they gained.

Even so, according to Abderbwih et al. (2022), reports on how effectively these improvements last are still lacking, and they suggested that more thorough evaluations are needed. The results are also what we predicted, since this study examines how targeted nutrition education for parents and caregivers of young children improves outcomes. When caregivers improve their skills, programs might improve nutrition and

health for children under six.

Many experts now agree that what parents learn about nutrition helps guide their children's food choices. The researchers found that a parent teaching their child about food can impact food literacy through how the two interact and the child's motivation to learn. They say that having educated parents doesn't only involve passing on information; it helps form children's attitudes toward food and eating habits that will stay with them if they stay in place over time.

From the data, it appeared that children whose parents help them understand what they eat usually progress more in food literacy. We need to pick where our food comes from, make good food choices, and maintain a positive attitude toward nutrition. Having a good parent–child relationship gives this type of education a stronger impact since students trust their parents and want to study further. Children who are encouraged by their parents to learn usually do better at remembering nutritional information.

This literature supports the importance of parent-centered nutrition education programs, in building not only caregiver knowledge but also stronger relational and motivational dynamics that benefit child health outcomes. By emphasizing the quality of interactions and emotional context of food education, programs can become more effective in shaping lasting, positive dietary behaviors among children.

Parental dietary behaviors and practices significantly shape children's eating habits and nutritional outcomes. Mahmood et al. (2021) emphasize that parents serve not only as food providers but also as role models whose dietary choices, feeding styles, and home food environments strongly influence their children's eating behaviors. Family impact on our eating habits begins in early life and stays important as we grow into adolescents.

A variety of ways are revealed by the study in which parental practices tie closely to food consumption for kids. These aspects are eating habits, the food kids have at home and its accessibility, meals where they're encouraged to eat more or eat less, and the mood at mealtime. When parents often eat fruits and vegetables and keep them around, kids usually start to do the same. By contrast, forcing or controlling food intake in children has often been linked to unhealthy eating patterns and a greater chance of becoming overweight. In addition, the findings show that social standing, the level of parental education, and background can weaken the effects of parents' behavior on their kids' diet. It is often true that those with higher education levels will make healthier and more knowledgeable food decisions for the home. For that reason, it is important for interventions to focus on helping mothers or primary caregivers understand good and effective feeding approaches.

Based on the study of Mahmood et al. (2021), solving nutrition in children must rely on including the family, with parents receiving guidance to offer a positive environment for eating. This information is especially helpful for local nutrition education programs that try to address undernutrition and promote good eating habits early on.

For many years, Philippine authorities have considered malnutrition to be a major issue for the health and development of the country. The Philippine Plan of Action for Nutrition has guided the country from 1974 onwards to fight undernutrition and support good nutrition throughout every stage of life.

Based on Candelario (2023) a narrative review of the evolution of the PPAN from 1974 to 2022, emphasizing the gradual shift from curative to more preventive, multisectoral, and community-driven strategies. Each iteration of the PPAN aligned with broader global agendas such as the Millennium Development Goals and Sustainable Development Goals has prioritized critical intervention areas including food and nutrition security, maternal and child health, and nutrition-sensitive governance.

One of the key takeaways from the review is the increasing acknowledgment of the role of behavior change and education**,** especially at the household level, in improving nutritional outcomes. While large-scale programs such as food supplementation and micronutrient fortification have contributed to the reduction of some forms of undernutrition, the persistent prevalence of stunting, wasting, and micronutrient deficiencies suggests that policy implementation alone is insufficient without empowering families through education (Candelario, 2023). Parents and caregivers particularly mothers serve as frontline decision-makers

in feeding and caregiving practices. However, the review points out that gaps remain in the delivery of community-based nutrition education and counseling, especially in low-resource areas where malnutrition remains high.

Furthermore, despite the structural progress of the PPAN and its multisectoral reach, local implementation and sustainability continue to face challenges, such as inadequate funding, lack of trained personnel, and poor monitoring and evaluation mechanisms. Candelario (2023) underscores the need to strengthen capacity-building efforts at the barangay and municipal levels, particularly through the Barangay Nutrition Scholars (BNS) program, to ensure consistent and culturally relevant nutrition education delivery. For these efforts to be effective, there must be a sustained investment in parent-focused interventions that equip families with the knowledge, attitudes, and practices necessary for optimal child nutrition.

In light of these findings, it becomes evident that while the national policy environment is supportive, the success of nutrition programs heavily relies on how well parents and caregivers are educated, engaged, and supported. This insight directly aligns with the present study's aim of assessing the effectiveness of nutrition education programs provided to parents and caregivers, especially in vulnerable communities like those in Kalayaan, Laguna.

Malnutrition among children under five years old remains a critical public health issue, particularly in low- and middle-income countries. Govender, Rangiah, Kaswa, and Nzaumvila (2021) published a study in South Africa that showed how many sides malnutrition has and how strongly it influences the health of children. The results from their work support the view that malnutrition is caused by a mix of factors around a person, their family, and their community rather than being limited to a lack of food.

At an individual level, age, gender, birth weight, style of breastfeeding, and comorbidities all play a major role in a child's nutrition. Poor nourishment is more likely to affect children who enter the world with less than normal birth weight or who lack a full diet of mother's milk. Besides, younger mother's age and less maternal education also greatly increase the likelihood of the condition (Govender et al., 2021).

What happens at the household and neighborhood level is truly important too. Children from poor communities with limited access to needed health services and clean water often suffer from malnutrition, according to the study.

Crucially, the study reveals that primary healthcare strategies are vital for tackling malnutrition. Recognizing malnutrition early, organizing community nutrition schemes, and better educating caregivers are found to be helpful steps. A well-informed parent or caregiver knows how to safely feed a child and can greatly improv

What we learned in this study is particularly important for the Philippines, given its similar challenges in healthcare and society. Community education programs designed for parents and caregivers can greatly lower the rate of malnutrition in children aged five and under. Looking at both quick and primary malnutrition issues, these activities support healthier and happier development for children.

Underlying reasons for malnutrition in young children are multiple factors related to what food is available, resources, and proper use of health and nutrition services (Drammeh, 2019). The groups nutrition-specific and nutrition-sensitive factors are most often used to describe these influences. Causes related to nutrition are not enough nutrients, unhealthy ways caregivers feed the child, unsafe or unhealthy food, and infections. Alternatively, nutrition-sensitive determinants address more general problems such as running out of food, being poor, and having no access to important services such as education, healthcare, and sanitation (Clark, 2020).

The environment within the home affects how much children eat. Young children are more likely to be malnourished if their family has lower income, the household is large, where they live, or the mother hasn't completed much education (Modjadji, 2019). A lack of economic stability, together with poverty and a limited ability by parents to understand certain health topics, leads to weaker health outcomes among children. The coronavirus pandemic made things worse, as NIDS-CRAM research showed that food and economic security increased sharply at that time (Dynamics NI, 2021). In addition, beliefs about food that are

often taught in a community, not knowing about healthy eating, and using the wrong techniques for feeding children harm their nutritional health. If a family is led by an adolescent or young person, many children there may suffer from malnutrition, because their parents do not have access to enough support or supplies (Drammeh, 2019).

Giving parents and caregivers knowledge has repeatedly been highlighted as a key method for dealing with early childhood malnutrition. In the Philippines, De Lima, de Silva, and Risonar (2021) conducted a cluster randomized controlled trial to check how a nutrition education program changes mothers' knowledge, attitudes, and practices (KAP) when caring for their children under five years old. According to the study, better KAP in mothers after the intervention changed child-feeding habits and led to improved variety in children's diets.

The ten group sessions were designed using the Philippine Dietary Guidelines and Nutritional Guidelines for Filipinos. The information was given by health workers in our community, who presented it in a simple form easy for everyone to grab on to. Using this approach allowed mothers to see themselves in the content and use what they learned each day.

Notably, the improvements in feeding practices were sustained beyond the intervention period, highlighting the program's effectiveness in promoting lasting behavioral change.

The findings of De Lima et al. (2021) emphasize the critical role of structured, community-based nutrition education in empowering caregivers and improving child health outcomes. It supports the inclusion of tailored educational programs within local public health strategies, particularly in rural or underserved areas, where nutrition-related knowledge gaps may contribute to persistent malnutrition.

In the context of Kalayaan, Laguna, where this study is based, similar educational interventions could be adapted to improve the nutritional status of young children and further engage parents and caregivers in long-term health-promoting practices.

A study by Salvo, Barrion, Maneja, and Lanorio (2023) conducted in Barangay Calumpang, Nagcarlan, Laguna, presents a compelling case of undernutrition among children under five years old in a rural Philippine community. Their research highlighted that despite the presence of improved water sources and sanitation facilities, undernutrition persisted, primarily in the form of severe underweight and stunting. The study found that 36% of the children were severely underweight, and 39% were severely stunted, with undernutrition more prevalent among boys, children from poorer households, and those who were only partially immunized. These findings underscore the complex and multifactorial nature of child malnutrition, which extends beyond basic sanitation and touches on broader social determinants such as poverty, inadequate access to health services, and lack of nutrition-related knowledge and practices within families.

The insights from this study are highly relevant to the present research, which focuses on assessing the effectiveness of the Nutrition Education Program in Kalayaan, Laguna. Both municipalities share similar rural characteristics, and like Calumpang, Kalayaan also faces challenges in addressing malnutrition among young children. It seems that education programs in Calumpang are not successful unless combined with financial and health help. According to Salvo et al., efforts should be made to improve food-based jobs, protect more children by giving vaccines, and teach mothers and caregivers about proper child nutrition. Based on this, Kalayaan's nutrition education program will assist parents and caregivers in gaining useful knowledge for their children's health.

Moreover, results from Barangay Calumpang show that updating and evaluating these programs supports their ability to care for vulnerable groups. Since the current research aims to study caregivers' views, the problems they experience in joining, and changes in their kids' nutrition, the case from Nagcarlan can help explain the situation better. It points out that each community's needs should be addressed using both general and local aspects of nutrition. Thus, improving the Nutrition Education Program in Kalayaan helps ensure that useful outcomes are also seen in other places like it.

Along with other researchers, Humbwavali, (2019), studied malnutrition and its causes in children who are younger than two years living in a suburban region of Angola. It was found that malnutrition

continues to be a major concern in public health, with most cases of undernutrition relating to less education for expecting mothers, issues getting to essential health services, and ineffective ways to feed infants. The report revealed that child nutrition problems often emerge in places where caregivers do not know enough about children's proper diet. This means that interventions in schools are essential for the better development of children. The findings supply data for the present study that evaluates the success of the Nutrition Education Program in Kalayaan, Laguna. The program prepares parents and caregivers with the necessary information so that undernourishment among young children can be reduced. The findings from Angola prove that getting nutrition education into the community is an effective strategy for dealing with the main issues leading to childhood malnutrition in regions where both poverty and lack of awareness are major issues.

In the study of Ethiopia, Gebregergis' (2024), it was found that a child's nutrition largely depended on how much education their parents had, the household's income, and the quality of nearby health services. It is explained that families with less educated mothers and lower income are both unable to have healthy foods and are unlikely to take part in health and nutrition programs. The findings help narrow the present study by considering caregiver profiles and what keeps them from participating in Kalayaan's program. Just like in Ethiopia, some parents and caregivers in Kalayaan unable to afford good food or without formal education find it tough to practice the recommended nutrition, so initiatives aiming to help should be accessible to all. Ahmad, Afzal, and Imtiaz (2020) looked into how poverty, a lack of education among parents, and scarce health information contribute to higher rates of malnutrition in Pakistani children. The authors found that those experiencing poverty were more vulnerable to issues such as stunting, wasting, and becoming underweight due to their food and living conditions. This is consistent with the current research, which revealed that difficulties caused by poverty and new diets were important barriers for people wanting to join Kalayaan's Nutrition Education Program. This shows that when youngsters face socioeconomic issues, it not only affects their nutrition, but also the ability of caregivers to join in programs, so additional help must be arranged.

Major differences in social and economic background found by Okutse and Athiany, among other factors, increase child malnutrition in Kenya. Researchers discovered that children raised in poverty and under the care of poorly educated mothers are hit the hardest by stunting, underweight, and wasting. It was also found that having little access to information about nutrition and living in poverty continue to result in malnutrition. According to the Kalayaan case, severe poverty and a lack of education among caregivers act as obstacles for effective and available nutrition education. It is clear that by addressing issues related to poverty, more children can eat well and become more involved in local health programs.

Malnutrition in children in Uganda was observed by Adebisi et al. (2019) to coexist with poverty, an uneducated parental group, and lacking nutrition resources. Collecting information, the study discovered that coming from homes with minimal financial and educational resources made children malnourished, adversely affecting their health, mental development, and ability to work for many years. Authors urge for multi-sectoral actions, including educating the community about nutrition, since these actions play a vital role in getting rid of undernutrition. This is important for Kalayaan, Laguna, since the Nutrition Education Program is designed to guide parents and caregivers toward healthier methods of feeding their children. In much the same way as the Uganda study, this thesis shows that poverty and an absence of education on the part of the caregivers stopped many from joining and affected those able to join.

In a review by Ghosh (2020), various studies about childhood malnutrition and noted that the problem is caused by several different factors. According to the study, poverty, a mother's lack of education, local food habits, lack of cleanliness, and not getting enough healthcare were the main reasons for malnutrition in children. It pointed out that nutrition in children depends on both knowledge and environmental issues. Similarly, in the survey in Kalayaan, Laguna, the results showed that the Nutrition Education Program was most effective when caregivers were not plagued by poverty, had more education, and were able to find childcare. According to Ghosh, for malnutrition to be reduced, efforts should be made both in schools and in the wider community.

The author aimed to identify and analyze what causes child malnutrition by performing a systematic review. Experts found that the causes of malnutrition included economic situation, parents' knowledge level, access to health services, and whether people have enough food to eat. It revealed that following certain practices and procedures adopted by mothers is necessary for the well-being of their babies. This is in line with the aims of the Nutrition Education Program in Kalayaan, Laguna, which try to educate caregivers on improving their actions. According to her findings, it is important for community initiatives to focus on nutrition and to help address various economic and social issues related to malnutrition.

The researchers conducted a comprehensive study focusing on how much childhood malnutrition occurs, its causes, and what steps can be taken to manage it in Vietnam. It was discovered during the study that access to good nutrition for children is mostly affected by financial inequality, a lack of women's education, inadequate healthcare, and insufficiently varied diets. Moreover, the document pointed out that though various programs are in place to encourage healthy nutrition, there still exist major gaps in including communities in those efforts. This result matters for the Nutrition Education Program in Kalayaan, Laguna, due to its focus on ways to fight malnutrition that involve parents and caretakers. Strongly recommended by the review to help children in similar situations is to increase caregivers' because it teaches families about child nutrition.

In a study conducted by Riazi et al., they looked at whether nutrition education using the Health Belief Model (HBM) had any effect on the dietary habits of pregnant Afghan immigrants. The study revealed that those who went through belief-based structured sessions ate a better, more nutritious diet. The study indicated that making education suitable to each group's beliefs and perceptions leads to effective changes in their actions. This result is closely in line with the Education Program for Kalayaan in Laguna, whose goal is to support parents and caretakers with focused information. If the program helps caregivers challenge previous untrue beliefs about child nutrition, it may guide their actions to prevent malnutrition in children.

Based on the study of Khani Jeihooni and her colleagues (2022), the effects of a program designed on the Health Belief Model (HBM) on mothers' monitoring of their children who have growth disorders, especially at the age of 6 to 12 months. According to the study, mothers learned a lot more, became more aware of their situation, and took extra action for the nutrition and growth of their children as a result of the intervention. It underlines how teaching on health topics, based on theories, can help caregivers address and prevent childhood malnutrition. So, introducing the HBM model can make the Kalayaan, Laguna program more effective in changing the way parents treat their children's nutrition and discover and deal with nutrition-related issues early in a child's life.

Meanwhile, Nenobais and Katmini (2021) looked at the role of the Health Belief Model (HBM) in preventing stunting in toddlers through encouraging proper nutrition among their mothers. The researchers learnt that women changed their behaviors when it came to feeding their young and stopping stunting after considering severity, susceptibility, advantages, and obstacles. It proves that health education models are useful for shaping parents' behavior and stresses the importance of using HBM-based approaches in community nutrition programs. In regards to the Nutrition Education Program in Kalayaan, Laguna, this study proves that using HBM as a theory can support actions taken to address early childhood undernutrition by targeting the behaviors of caregivers.

Furthermore, Wardani et al. (2022) focused on examining whether and how mothers' perception about their health risks and stunting issues impact their behaviors directed at preventing stunting. When mothers perceived things to be more dangerous and common, they were more successful in the area of child nutrition and health. Also, such beliefs make mothers more willing to do things that help prevent stunting in their babies. The outcomes conform to the goals stated in the Nutrition Education Program in Kalayaan, Laguna, which try to raise caregiver awareness to deal with child malnutrition. Applying psychological constructs during the design of programs can greatly influence behavior and health in kids.

They investigated the use of HBM-based educational interventions and the impact it had on mothers' actions to prevent malnutrition for toddlers aged 1 to 3 years. The research found that education based on

HBM increased mothers' feelings of risk, benefits, and confidence about feeding, making them more attentive towards their babies' health. As a result, it can be seen that educational programs based on theory positively affect parents' choices in providing healthy meals. What the research shows is very important for the Kalayaan, Laguna program, because it underlines the value of using HBM and similar theories in its design to affect caregivers' behavior and ensure better outcomes for children.

In an investigation by Glick et al. (2024) whether someone's belief influences their tendency to eat healthy foods. Researchers saw that both the perceived value and cost of healthier eating, in addition to one's self-perceived ability to do so, were the leading predictors of healthy eating. This is in agreement with the main philosophy of the HBM, which claims that a person's health behavior relies on mental factors about health risks and their results. Even though the research was conducted with Americans, its findings can be useful for nutrition-based programs for caregivers in places like the Nutrition Education Program in Kalayaan, Laguna. If groups can recognize and control the beliefs that shape choices of food, they can develop messages and strategies that help parents and caregivers of children select nutritious foods, avoiding malnutrition.

To assess the effect of an HBM-based education, Diddana et al. (2018) carried out a randomized control trial in Northeast Ethiopia involving pregnant women. HBM-based education resulted in better knowledge of nutrition and better dietary habits among the participants. The behavior was prompted by noticeably higher perceived risk, strong benefits of doing so, and action-motivating information. It is therefore suggested that HBM should be considered when putting together educational programs about better nutrition. From the point of view of the Nutrition Education Program in Kalayaan, Laguna, this study demonstrates that formal education based on beliefs can inspire mothers and caregivers to improve their child's health.

In 2020, Oliver et al. researched the way peer mentors can deliver education about nutrition in food pantries in the United States. Several achievements were found by the study, for instance, better engagement of program participants, the relatability of peer educators to others, and higher awareness of healthy nutrition. What's more, there were problems faced, such as peer mentors' untested ability before starting and problems making the program fully consistent. Such results point to the significance of choosing culturally relevant models for teaching, mainly in low-resource situations. Engaging members of the community and especially trained mothers or caregivers as peer educators can significantly increase the impact and continue nutrition interventions for controlling child malnutrition in Kalayaan, Laguna.

In a conducted study by Mukhamedzhanov et al. to find out how nutrition education influenced the nutritional behavior, school achievement, success in sports, and students' views. It was discovered that taking part in the nutrition education program improved the participants' knowledge and behavior in relation to eating healthy. By adopting healthier diets, students improved in both their academics and athletics, suggesting that being conscious of food is not only good for well-being. The goals of the Program in Kalayaan, Laguna are closely related since the program tries to help parents and caregivers gain knowledge to support their children's nutrition. It confirms that education-based programs help children eat better and also contribute to their total development, pointing out the value of including such initiatives in health actions in the community.

Also, Verdonschot and colleagues (2021) investigated the level of teaching achieved in programs on nutrition offered in the Netherlands and Australia. It was found that the effectiveness of a program in changing individual's nutritional knowledge and behavior depends on the quality of teaching, like clarity, engagement, relevance, and practical application. It was found that using learning strategies that matched the needs of the people helped a lot, confirming the significant role of educators in turning nutritional guidance into actions. This knowledge is particularly vital for the Nutrition Education Program, since it emphasizes that besides teaching nutrition, the content and approach must be sound to be effective on parents and caregivers. Good teaching strategies can play an important role in preventing child malnutrition by helping caregivers to decide on better nutrition.

Additionally, Aydın et al. (2022) looked into the influence of using various nutrition education techniques on the nutrition knowledge of high school students. Based on their studies, using interactive and

participatory ways, such as group discussions and illustrations, was better for keeping students' learnings. It is evident from the study that the way nutrition education is delivered matters a lot in terms of its effectiveness. This suggests that in Kalayaan, Laguna, the Nutrition Education Program should use different ways of teaching to engage both the parents and caregivers. It is important to educate caregivers about nutrition here, as it supports better feeding of children and fight off malnutrition. In 2020, Dorado et al. studied if school meals for kids carried out with nutrition education improved health in selected public schools in the Philippines. Studies have shown that those who took part in such interventions had a better variety of food and improved their health. Furthermore, the study pointed out that being actively involved by parents and regularly discussing the importance of healthy foods in their home boosted the habits of children. It underlines the importance of having nutrition education at the community and family level, which is the focus of the program being run in Kalayaan, Laguna. Helping parents and caregivers understand the basics can increase the outcome of school feeding, and in doing so, children under five can eat better.

In the study of Lokossou et al. (2021), they examined the role of cultural beliefs on how mothers feed their children in Grand Popo, Benin. The study found that mothers often ate their children food typical to their area, causing the diets to be lacking. These practices that come from the culture led to long-term undernutrition, even though there was an abundance of food. Therefore, this insight is vital for the present study because it proves that sensitivity to cultures is key during the planning and implementation of educational efforts. Taking local beliefs and behaviors into account can make caregivers more open to learning and likely to improve the health of children. A study was conducted by Frumence and others (2023) that looked at the factors affecting undernutrition in children in this region. The study drew attention to the impact of social norms, gender differences, age-old food beliefs, and not involving the father in cooking and feeding the kids. As a result of these issues, caregivers' actions and ways of feeding children were affected, often resulting in poor nutrition for kids. As a result, it is crucial for this study on the Nutrition Education Program to understand the culture in Kalayaan, and to address any barriers related to gender and beliefs while conducting nutrition education. Using strategies that respond to the culture of the group could raise the acceptance of the program and bring about changes in the behavior of mothers and caregivers.

In addition, Enriquez and Archila-Godinez (2022) examined the effects of cultural and social factors on people's behavior and food routines. The study revealed that the food people like in their families and homes is largely impacted by their roles, cultural habits, the environment, and common beliefs. They may result in continuous habits connected to eating, which might have either positive or negative effects on someone's health. Following traditional methods of feeding children may at times clash with scientific advice, leading to the problem of undernutrition. This finding is particularly useful for the Nutrition Education Program in Kalayaan, Laguna, because it is meant to modify the behavior of caregivers. Such a study confirms that aiming to change feeding habits in families requires attention to cultural needs and social aspects.

Meanwhile, Ramirez and Ducay (2021) carried out a study looking at factors affecting a proper diet in Filipino children from low-income households up to 59 months. It was discovered that when mothers were educated, strictly breastfed their child, their child was immunized, and they visited health services regularly, their children's nutritional outcome improved, despite having a low household income. It is clear from the findings that both know-how and lifestyle decisions among caretakers can help protect a person from malnutrition, no matter what the financial situation is. As a result, the Nutrition Education Program in Kalayaan, Laguna, aims to boost the health of children by increasing awareness among parents/caregivers about what they should do. Local programs provide parents, especially mothers, with valuable nutrition information that can have a major impact on children's health, confirming that such measures should be adopted as a way to fight malnutrition.

Moreover, Stewart-Knox and his team (2023) looked into how people's sex and age impact their attitudes and decisions to use personalized nutrition programs in the UK. From their results, people found that women and individuals under age 50 were more likely to accept tailored dietary recommendations mainly

because they placed greater value on nutrition for good health. The behavior insights apply to the research on the Kalayaan, Laguna Nutrition Education Program because participant demographics impact its outcome. Our study reached similar conclusions: sex and age made a difference in how caregivers perceive our program. Learning about these differences supports education projects that are better suited to the overall personal needs and inclinations of groups which leads to more successful nutrition interventions.

On the other hand, Kang and colleagues (2021) did a comparison of diet quality in patients diagnosed with heart failure and in people who did not have heart failure, all matched for age and gender. The results showed that how someone eats varies by age and sex, with women having a better diet and older people restricted by what they can eat. Even though the research was aimed at people in hospitals, its results offer important guidance for programs in places like Kalayaan, Laguna. Knowing about demographics helps you decide how nutrition education should be given and understood by individuals. This Result supports findings from the current study that caregivers' views of the program vary by age and sex. Customizing nutrition information to fit these groups can increase both participation and results among caregivers who feed children.

Similarly, Wrottesly et. al (2021) looked at how age and gender affected the healthy eating and physical activity of adolescents and their caregivers in South Africa by using the TALENT initiative. The results showed that both adolescent actions and caregiver habits were influenced by what was expected of them, their gender and their attitudes about nutrition and health. Among all the caregivers studied, this task seemed to fall more to women than to men, as is evident in this study from Kalayaan, Laguna where many caregivers were women. The study points out that designing health programs based on both age and gender helps recognize what matters to participants and what may stand in their way. They confirm that tailoring the Nutrition Education Program to different groups in Kalayaan helps more people participate, gain understanding and continue to change their expectations.

In 2020, D'Amico et al. looked at sex differences in the way dietary patterns influenced cognitive function in surveyed older adults from the NuAge study. According to the results, men and women had different diets and the healthier diet for women was associated with better thinking ability. Naturally, the data came from older populations, but it still contributes value here, as it stresses the role sex plays in dietary behavior and health outcomes. In the Nutrition Education Program, our results align with those found previously, as women largely agreed that nutrition education is valuable. Comparisons between sexes indicate that changes in child health affected by caregiver behavior should consider how males and females differ nutritionally.

As studied by Ueland et al. (2022) looked at the different aspects influencing what older people in Norway eat and found that health problems, ability to move, food access and social connection play a big role. Even though research was aimed at seniors, it tells us much about the factors that influence people's eating habits. These insights are significant for the Nutrition Education Program in Kalayaan, Laguna, as poverty, little family support and new diet differences were recognized as problems for caregivers there. The report indicates that to be truly successful, nutrition interventions should teach and also factor in the everyday barriers affecting participants. Reorienting education to address these challenges can raise the program's chances of leading to favorable nutritional results for children.

Moreover, Vinke et al. (2020) studied how the quality of diet affected the weight changes of adults over four years by looks at age and sex differences. The authors found that eating a better diet helped younger people lose or manage their weight, with noticeable variations by sex. Particularly, women stuck more carefully to healthier types of food and diet quality changes were stronger in young individuals. The findings apply to adults in any setting and can be used by the Nutrition Education Program in Kalayaan, Laguna. The study shows that focusing on different age and sex groups helps make nutrition education more useful. According to the present study, perception of the program differed by sex and age, so we need to use different strategies when including caregivers in nutrition efforts.

Also, Feraco et al. examined the way in which people's choice of food and level of physical activity

varies by gender through population surveys in 2024. It found that eating healthy foods and sticking to patterns in meal times were more common preferences for women, while men were more likely to pick meals full of more calories and less nutrients. They also showed up in how much these groups exercise and what their overall health looks like. It's especially notable for the Nutrition Education Program in Kalayaan, Laguna, since big differences in how male and female caregivers see and participate were discovered. The importance is made clear in the study; gender-sensitive action is important, since knowing about behavior differences can improve how actions against child malnutrition are planned and run.

In 2024, Thurstans and his team carried out a cross-national study to find out if the results of treatment for severe malnutrition in children differ by both age and sex. Younger children and boys experienced poorer recovery outcomes than did either older children or girls. Was a connection found, in these cases, between physiological differences and how each type of child was cared for? Such evidence is important for the Nutrition Education Program in Kalayaan, Laguna, where the study also discovered that undernutrition affected boys more and that caregivers' perceptions differed by age and sex. The results suggest that program design and delivery should consider both age and gender, so that each child group is provided with support that matches their unique challenges.

As well as, Michou et al. (2020) looked at the links among sex, age and how healthy and nutritious adults in Greece thought they were. According to their research, women understood more about healthy eating and how to apply it and younger citizens were better at using nutritional information than older groups. According to the results, both age and sex are important factors affecting peoples' use of nutrition knowledge. The findings of the current study fit well with the Nutrition Education Program in Kalayaan, Laguna, because it showed that caregivers' perceptions differ by age and sex. Identifying differences in literacy helps the program adapt lessons so all participants enjoy the content and improve their health.

In addition, Drywień et.al. (2021) explored ways that metropolitan adolescents avoid confused nutritional choices and related this to gender, knowledge, physical activity and the atmosphere at home. Girls avoided less risky dietary behaviors than boys and adolescents with greater nutrition knowledge—helped by loving family support—had a higher chance of following a better diet. The study looked at adolescents, but since many of the caregivers are relatively young, its findings are useful in the Nutrition Education Program in Kalayaan, Laguna. It becomes obvious that proper hospital- and home-based support at the family level can help battle childhood malnutrition.

In 2020, Darling and colleagues studied sub-Saharan Africa and looked at how nutrition, eating and exercise vary for teenage boys and girls. According to the study, girls practiced healthier diets, but they were still more likely to be undernourished because of their culture and society. Boys ate diets high in energy density and remained more active than the girls. Different ways of eating and living by gender show that social roles and standards start to shape young people's diets early in their lives. Since the findings stem from work with adolescents, they can help inform the Kalayaan, Laguna Nutrition Education Program when addressing caregivers' different ideas and behaviors. The findings highlight why it is important to use gender-friendly methods in community nutrition programs so effects are equal for all caregivers.

In 2021, Fard and colleagues looked at how educational level is linked to nutrition using a geographically aware method in different regions. The team found that the more educated a person was, the more likely their diet would be healthy. Where people lived did not matter, since education always predicted improved nutrition. You could see this relationship most clearly where nutritional differences were greater in the community. The findings have direct value for the Nutrition Education Program in Kalayaan, Laguna, since helping caregivers learn improves child nutrition. The findings indicate that education is key to deciding healthy foods and by promoting learning, families can enjoy better health results, based on the limited resources in their environment.

Lastly, Sandri et al. (2024) looked at how much education correlates with diet and health habits of young people living in Spain. Higher education was linked in the study to a healthier diet, better nutrition understanding and being more active. People with fewer years of education typically had less healthy diets

and were more likely to do unhealthy things. Because many of these caregivers have little or no formal education, these results are very appropriate for the Nutrition Education Program in Kalayaan, Laguna. The findings back up the view that teaching people about nutrition, through education, can encourage healthier diets and prevent malnutrition in children in communities with low incomes.

1.10. Synthesis

The review of related literature and studies underscores the complex, multifactorial nature of childhood malnutrition and the critical role that parental and caregiver education plays in addressing it. Globally and locally, malnutrition whether in the form of undernutrition, overnutrition, or micronutrient imbalance remains a pressing concern, particularly among children under five. In the Philippines, the persistence of stunting, wasting, and obesity despite national nutrition policies highlights the need for more targeted and behavior-focused interventions.

The reviewed studies consistently demonstrate that structured nutrition education programs significantly enhance caregivers' knowledge, attitudes, and practices related to child feeding, which in turn lead to improvements in children's nutritional status. Research findings point to the effectiveness of community-based and culturally sensitive strategies that empower caregivers through accessible, relevant, and theory-driven approaches, such as the Health Belief Model (HBM). Demographic factors like age, sex, and education level, also influence how nutrition programs are received and their impact on behavior, thus emphasizing the need for tailored interventions.

Moreover, the evidence suggests that nutrition education alone is not sufficient. Barriers such as poverty, food insecurity, lack of access to healthcare, and deeply rooted cultural beliefs often hinder program participation and success. Programs that integrate educational, social, and economic support while also engaging caregivers actively show greater promise in achieving lasting change. In the context of Kalayaan, Laguna, the literature strongly supports the rationale for evaluating and enhancing local nutrition education programs. Lessons from both local and international studies reveal that empowering caregivers with practical nutrition knowledge, delivered in ways that consider their unique challenges and cultural contexts, is key to reducing malnutrition and promoting child health.

2. Methodology

This chapter covered the methods and statistical treatment which were used by the researchers in conducting this research It included the research design, population and sampling techniques, research procedure, research instrument and the statistical treatment of the data.

2.1. Research Design

Descriptive research is a type of research that aims to accurately and systematically describe a population, situation, or phenomenon. It focuses on answering the "what" questions rather than the "why" or "how." This method involves collecting data that provides a detailed account of the characteristics, behaviors, and conditions of the subjects being studied. Descriptive research can employ various data collection techniques, including surveys, observations, and case studies, to gather information that paints a comprehensive picture of the subject matter.

In the context of the study on the nutrition education program for parents and caregivers of young children in Kalayaan, Laguna, descriptive research is highly appropriate. The study aims to analyze various aspects of the program, such as the demographic characteristics of the respondents, the nutritional status of young children over the last three years, and the perceptions of the respondents towards the program. By employing descriptive research, the study can systematically gather and present detailed information on these

aspects, providing a clear understanding of the current state of the nutrition education program. This approach allows for the identification of specific areas that need improvement and supports the development of targeted enhancements to the program. Additionally, descriptive research can reveal patterns and trends that are crucial for making informed decisions and formulating effective interventions to improve the nutritional outcomes for young children in the municipality.

2.2. Respondents of the Study

The target respondents for this study were parents and caregivers of young children residing in Kalayaan, Laguna, who have participated in the nutrition education programs over the past three years. These individuals have direct involvement and influence on the nutritional practices and health outcomes of young children. These individuals are responsible for making daily dietary choices and implementing nutritional guidelines provided by the education programs. Their firsthand experiences and perceptions are crucial for evaluating the effectiveness of the program and identifying areas for improvement. Focusing on this group ensures that the data collected is relevant and reflective of the actual impact of the nutrition education program on the children's nutritional status. Additionally, understanding the demographic characteristics and challenges faced by these respondents can help tailor the program to better meet their needs and enhance its overall effectiveness.

2.3. Sampling Technique

The sampling technique employed in this study was Stratified Sampling. This was used to select participants who have attended the Nutrition Education Program provided by the local nutrition office among the three barangays (strata). A sample size of 105 parents and caregivers who have participated in the nutrition education programs was selected, 35 respondents from each barangay. The 35 respondents were systematically sampled from the MNAO listing.

2.4. Research Instrument

This study utilized a researcher-made survey questionnaire divided into three parts. The first part determines the demographic characteristics of the respondents participating in the Nutrition Education Program in terms of age, gender, highest educational attainment, and mode of delivery of the Nutrition Education Program. The second part determines the perception of the respondents towards the Nutrition Education Program in terms of susceptibility, severity, benefits, and barriers. The last part determines the hindrances encountered in their participation in the Nutrition Education Program.

Growth monitoring data was collected to monitor the children’s anthropometric measurements (weight, height, and age) to assess changes in the nutritional status. Data was analyzed using WHO child growth standards to check the nutritional status (underweight, normal, overweight). Data were collected to find out the nutritional status of the young children in Kalayaan, Laguna in the last three years (2021-2023).

2.5. Data Gathering Procedure

Initial Research was done to determine the scope, gaps and structure of the study for the title proposal. The researcher then designed the research instrument to answer the research questions. Pilot testing was conducted to check on internal consistencies of the survey questions and to check on the ease of answering the survey whether they are easy to understand. After seeking approval to conduct the survey, the researcher guided the respondents in completing the survey. Data collection involved administering the structured questionnaire to parents and caregivers who joined the program. The researcher ensured informed

consent of the respondents The questionnaires were answered in person and with the guidance of the researcher to ensure there were no missing or inconsistent responses. After collecting the questionnaires, the researcher tabulated the responses in a spreadsheet and performed statistical treatment.

2.6. Ethical Considerations

The researcher obtained clearance from the Ethics Board of Pamantasan ng Lungsod ng San Pablo. Additionally, a separate evaluation of the researcher-made questionnaire was conducted to ensure compliance with the standard operating procedures set by the National Ethics Committee.

Throughout the conduct of the study, ethical principles were observed with utmost consideration. These included considerations such as the purpose of the research, type of intervention, participant selection, research procedures, duration, potential risks and benefits, reimbursement, confidentiality, result dissemination, the right to refuse or withdraw, and designated contact persons.

Informed consent was secured from all respondents using the same consent form administered during the survey process.

2.7. Statistical Treatment

The data gathered in this study were subjected to the following treatment:

Frequency Count and Percentage was used to determine the demographic characteristics of the respondents. The same treatment was used to determine the nutritional status of the young children in the last 3 years and the hindrances encountered.

Mean and Standard Deviation was used to find out the perception of Nutrition Education Program.

Kruskal Wallis H-test was utilized to test if there exists significant difference in the perception towards the Nutrition Education Program as grouped according to profile.

Friedman Test was used to test if there exist significant difference in the nutritional status of the young children in the last 3 years.

3. Results and Discussion

This chapter presents the results, analysis, and discussion of the findings with regards to the nutrition education programs for parents and caregivers of young children in the municipality of Kalayaan, Laguna.

Table 1.1
Demographic Profile of the Respondents in terms of Gender

Gender	Frequency (f)	Percent (%)
Female	96	92
Male	9	9
Total	**105**	**100**

The data from Table 1.1 presents the demographic profile of the respondents in terms of gender. It shows that 96 respondents were female, which is 92% of the total and the majority of the sample, while male respondents have a frequency of 9 or 9% of the respondents.

Mahmood et al. (2021) affirm that maternal dietary behaviors strongly influence children's eating habits, particularly in the early years of life. Their dominant participation in the program suggests that they are the ones actively engaged in seeking knowledge and applying nutritional practices for their children. This also reflects traditional family dynamics where mothers or female caregivers play a central role in the health

and well-being of the child. Therefore, targeting mothers and female caregivers through structured nutrition education can significantly enhance dietary practices within families and contribute to the long-term well-being of children. The data implies that women are primarily responsible for child-rearing and nutrition in most households.

Table 1.2

Demographic Profile of the Respondents in terms of Age

Gender	Frequency (f)	Percent (%)
below 26 yrs old	37	35
26-35 years old	50	48
36-45 years old	13	12
46-55 years old	5	5
Total	**105**	**100**

In terms of age, 50 respondents were 26–35 years old, accounting for 48%, making them the most represented age group. This is followed by 37 respondents below 26 years old (35%), while 13 respondents (12%) are between 36–45 years old, and the smallest group, 5 respondents (5%), are aged 46–55. The data suggests that a large portion of the respondents are in their early adulthood to mid-adulthood stage. This age range is typically associated with active parenting years, where individuals are more receptive to new information and programs related to child care.

Riazi et al. (2024) found that younger caregivers tend to respond more positively to nutrition education programs, often showing greater improvements in knowledge and behavior when interventions are tailored to their needs and daily challenges. This highlights the importance of providing continued support to this age group, many of whom may be first-time or relatively inexperienced parents.

The implication is that nutrition education efforts, when made relevant and accessible to younger caregivers, can contribute significantly to positive changes in child-feeding practices and overall health outcomes.

Table 1.3

Demographic Profile of the Respondents in terms of Highest Educational Attainment

Highest Educational Attainment	Frequency (f)	Percent (%)
Elementary level/graduate	29	28
High school level/graduate	65	62
College level/graduate	11	10
Total	**105**	**100**

For educational attainment, the highest number of respondents are high school level or graduates, with 65 individuals or 62% of the sample. This is followed by 29 respondents (28%) who reached or completed the elementary level, and 11 respondents (10%) who are at the college level or are college graduates. This distribution shows that most respondents have basic to intermediate educational backgrounds. While a college-level education is limited among participants, the strong presence of high school graduates suggests that the majority have sufficient literacy skills to comprehend and benefit from the Nutrition Education Program.

De Lima et al. (2021) demonstrated that Filipino mothers, regardless of education level, benefited significantly from structured nutrition education when content was simplified and culturally adapted. This

suggests that even in communities with limited formal education, nutrition programs can be highly effective if they are accessible, visual, and practically oriented.

Table 1.4
Mode of Delivery

Mode of Delivery	Frequency (f)	Percent (%)
IEC Material	92	88
Assembly Meeting	56	53
Audio Visual Presentation	18	17
House to house visitation	98	93
Respondent was the one who went to the MNAO to inquire	10	10
Total	**105**	**100**

Table 1.4 shows that house-to-house visitation was the most common delivery method of the Nutrition Education Program, reported by 93% of respondents. This was followed by the use of IEC materials (88%) and assembly meetings (53%). Less common were audio-visual presentations (17%) and self-initiated inquiries at the MNAO office (10%). These results suggest that personalized and active outreach methods, such as home visits, are the most effective in reaching caregivers, especially in rural or low-resource areas. The widespread use of IEC materials also indicates the importance of print-based learning tools. Meanwhile, the limited use of digital presentations and walk-in inquiries suggests barriers like technology access or lack of initiative, reinforcing the need for proactive engagement.

These findings are supported by Dorado et al. (2020), who found that face-to-face and community-level strategies were more effective in delivering nutrition education in Philippine settings. Their study highlighted that direct contact, such as house visits and local meetings, fosters trust, improves participation, and helps ensure message retention. This suggests that the NEP's strength lies in its focus on locally appropriate and accessible delivery methods.

Table 2
Nutritional Status of the young children

	2021		2022		2023	
Nutritional Status	**f**	**%**	**f**	**%**	**f**	**%**
Weight for Age						
Overweight	4	4	3	3	1	1
Normal	46	44	39	37	42	40
Underweight	43	41	59	56	58	55
Severely Underweight	12	11	4	4	4	4
Height for Age						
Tall	11	10	11	10	11	10
Normal	63	60	62	59	64	61

Stunted	27	26	29	28	28	27
Severely Stunted	4	4	3	3	2	2
Weight for Length/ Height						
Obese	6	6	6	6	6	6
Overweight	4	4	4	4	4	4
Normal	48	46	52	50	53	50
Mildly Wasted	37	35	39	37	38	36
Severely Wasted	10	10	4	4	4	4

Note. N = 105

Table 2 presents the nutritional status of young children from 2021 to 2023, categorized according to Weight for Age, Height for Age, and Weight for Length/Height. This data provides insights into the progression of child nutrition over a three-year period.

In terms of weight for age n 2021, 4 children which is 4% were classified as overweight, 46 which is 44% were normal, 43 which is 41% were underweight, and 12 which is 11% were severely underweight. In 2022, the percentage of overweight children slightly decreased to 3 which is 3%, normal children dropped to 39 which is 37%, while the number of underweight children increased to 59 which is 56%, and severely underweight cases dropped to 4 which is 4%. In 2023, the number of overweight children further declined to 1 which is 1%, normal status slightly improved to 42 which is 40%, underweight children remained high at 58 which is 55%, and severely underweight cases remained at 4 which is 4%.

This data indicates that while there was a decrease in the number of overweight and severely underweight children from 2021 to 2023, the prevalence of underweight children remained high, particularly in 2022 and 2023. Although the normal weight category slightly recovered in 2023 compared to 2022, the consistent rate of underweight cases suggests that nutritional challenges persist. The reduction in severely underweight children reflects a positive impact, possibly from intervention efforts, but the high proportion of underweight children overall still signals a need for improved nutritional practices and support.

In terms of height for age, 11 children which is 10% were considered tall in each of the three years. 63 which is 60% were within the normal range in 2021, slightly decreasing to 62 which is 59% in 2022, and improving to 64 which is 61% in 2023. Stunted children increased from 27 which is 26% in 2021 to 29 which is 28% in 2022, then slightly decreased to 28 which is 27% in 2023. Severely stunted children slightly declined over the years: 4 which is 4% in 2021, 3 which is 3% in 2022, and 2 which is 2% in 2023.

This section reveals minor fluctuations in children's height status, with a steady number of tall children and a slightly improved normal range by 2023. The gradual decrease in severely stunted children suggests that some children are responding positively to interventions. However, the persistently high proportion of stunted children across all three years implies that long-term nutritional deficiencies affecting growth remain a concern and must be addressed through sustained education and support for families.

In terms of weight for length/height in 2021, 6 children which is 6% were categorized as obese, and this number remained unchanged in both 2022 and 2023. 4 children which is 4% were consistently overweight across the three years. The number of children in the normal category increased from 48 which is 46% in 2021 to 52 which is 50% in 2022 and 53 which is 50% in 2023. Meanwhile, mildly wasted children slightly increased from 37 which is 35% in 2021 to 39 which is 37% in 2022, then slightly decreased to 38 which is 36% in 2023. Severely wasted cases showed improvement, declining from 10 which is 10% in 2021 to 4 which is 4% in both 2022 and 2023.

This data highlights a gradual but consistent improvement in the number of children within the normal weight-for-length/height range. The steady reduction in severely wasted children is an encouraging

sign of nutritional recovery. Although mildly wasted children still make up a large portion of the group, the data overall suggests that targeted efforts may be helping stabilize the nutritional status of the children.

These findings reflect similar results reported by Salvo et al. (2023) in their case study in Nagcarlan, Laguna, where despite community-based interventions, undernutrition among children under five persisted due to deep-rooted socioeconomic and behavioral factors. The gradual improvement in weight-for-length/height and the decline in severe wasting in your study indicate the potential positive impact of continued nutrition education efforts. However, sustained programming, localized feeding strategies, and improved parental practices are necessary to further reduce malnutrition levels among young children in Kalayaan.

Table 3

Perception of Respondents towards Nutrition Education Program

Indicators	Mean	SD	Interpretation
1. Susceptibility	3.51	0.35	Strongly Agree
2. Severity	3.47	0.68	Agree
3. Benefits	3.91	0.24	Strongly Agree
4. Barriers	3.18	0.36	Agree
Overall	**3.52**	**0.32**	**Strongly Agree**

Legend: 3.51-4.00 Strongly Agree; 2.51-3.50 Agree; 1.51-2.50; Disagree; 1.00-1.50 Strongly Disagree

Table 3 presents the perception of respondents toward the Nutrition Education Program using four indicators: susceptibility, severity, benefits, and barriers. The overall mean score is 3.52, which falls under the interpretation of Strongly Agree, indicating that the respondents have a highly positive perception of the program.

For the Susceptibility indicator, the mean score of 3.51 means that respondents strongly agree that they or their children are at risk of nutrition-related issues if no proper intervention or guidance is provided. This shows that the program has successfully increased awareness about the risks associated with poor nutrition.

The Severity indicator has a mean of 3.47, which is interpreted as Agree. This suggests that the respondents understand and acknowledge the seriousness of nutritional problems in children, although their perception is slightly less intense compared to how they view susceptibility.

Out of all the indicators, Benefits had the best rating, scoring 3.91 and is translated as Strongly Agree. This points to the belief of the respondents that the Nutrition Education Program is very valuable. They admit that it has improved their knowledge and methods concerning how to feed children correctly.

When it comes to the Barriers indicator, the mean is 3.18 and this is valued as Agree. Thus, people taking part in adult education may face some obstacles, yet they still feel it helps and is meaningful for them.

The Nutrition Education Program was well received by respondents, especially because they agreed most on the benefits and on their own risks for nutrition-related problems (mean scores of 3.91 and 3.51, respectively), as seen in Table 3. They demonstrate that the program is successful at increasing people's understanding of its importance for child health. Ernawati et.al (2024) found from the Health Belief Model study that mothers gained better knowledge and were more strongly motivated to adopt healthy practices for their children after receiving nutrition education. Although there were some acknowledged problems (mean = 3.18), the respondents saw value in the program. The results show that efforts like these should be spread in underserved communities, as long as the learning content is practical, suitable for various cultures and easy for everyone to follow.

This reinforces the importance of continuing and expanding nutrition education initiatives, especially in areas with vulnerable populations, to further reduce the risk of malnutrition among children.

Table 3.1
Perception of Respondents towards Nutrition Education Program in terms of Susceptibility

Indicators	Mean	SD	Interpretation
I joined the NEP because… (Ako ay sumali sa NEP dahil…)			
1. we belong to a poor family and are prone to malnutrition. *(ang pamilya namin ay may kakulangan sa pinansyal na aspeto at mas mataas ang posibilidad na na magkaroon ng malnutrisyon)*	3.84	0.46	Strongly Agree
2. I don't know the ways to good health and well-being. (*hindi sapat ang aking kaalaman sa pagdating sa tamang kalusugan)*	3.69	0.68	Strongly Agree
3. we have family history of diseases and I want early detection. *(may kasaysayan ang aming pamilya ng mga sakit at nais ko itong malaman ng maaga upang agad na maagapan)*	3.45	1.04	Agree
4. my child is in the critical stage of health (age 0-59 months). *(ang aking anak ay nasa kritikal na edad 0-59 buwan)*	3.95	0.21	Strongly Agree
5. of the presence of a disease outbreak. *(may lumalaganap na sakit sa aming lugar)*	1.60	0.87	Disagree
6. I am concerned about my child's frequent illness and want to learn how to improve their immunity *(ako ay nag aalala sa madalas na pagkakasakit ng aking anak at nais kong matuto kung paano mapapalakas ang kanyang resistensya)*	3.78	0.54	Strongly Agree
7. I worry that my child's eating habits may lead to future health problems *(ako ay nababahala na ang nakagawiang pagkain ng aking anak ay maaaring magdulot ng mga problemang pangkalusugan sa hinaharap)*	3.81	0.46	Strongly Agree
8. I noticed my child has poor appetite and want to know how to address it *(napansin kong walang ganang kumain ang aking anak at nais kong malaman kung paano ito malulutas)*	3.31	0.99	Agree
9. I am unsure whether my child is getting the right nutrients from their meals *(hindi ako sigurado kung nakakakuha ang aking anak ng tama at sapat na sustansya mula sa kanyang mga kinakain)*	3.83	0.43	Strongly Agree
10. I feel the need to know more about food safety and proper food preparation for young children *(pakiramdam ko ay kailangan kongmadagdagan ang aking kaalaman tungkol sa ligtas at tamang paghahanda ng pagkain para sa mga bata)*	3.85	0.46	Strongly Agree
Overall	**3.51**	**0.35**	**Strongly Agree**

Legend: 3.51-4.00 Strongly Agree; 2.51-3.50 Agree; 1.51-2.50; Disagree; 1.00-1.50 Strongly Disagree

Table 3.1 shows the respondents' perceptions regarding their susceptibility to nutritional issues, which served as one of the driving motivations for joining the NEP. The overall mean score is 3.51, interpreted as Strongly Agree, indicating that the respondents recognize their vulnerability to nutrition-related problems and acknowledge the importance of learning preventive measures through NEP.

Among the statements, the highest-rated was my child is in the critical stage of health, age 0–59 months with a mean of 3.95, suggesting that mothers are highly aware of the significance of proper nutrition during early childhood. This is followed by statements like I feel the need to know more about food safety and

proper food preparation for young children with a mean of 3.85, we belong to a poor family and are prone to malnutrition at 3.84, and I am unsure whether my child is getting the right nutrients from their meals with 3.83, all of which received Strongly Agree ratings. These responses highlight how economic constraints and limited knowledge on nutrition contribute to the caregivers' perception of susceptibility.

Statements such as I joined because I don't know the ways to good health and well-being with a mean of 3.69 and I worry that my child's eating habits may lead to future health problems with 3.81 also emphasize the caregivers' motivation to join NEP out of concern for their child's long-term health and nutritional development.

Meanwhile, two indicators received slightly lower ratings. The statement I noticed my child has poor appetite had a mean of 3.31, which still falls under the Agree category, suggesting that while this concern is present, it is not as strongly felt as others. The lowest-rated item was because of the presence of a disease outbreak with a mean of 1.60, interpreted as Disagree, indicating that external health crises were not a major motivation for participating in the program.

The overall results support the idea that caregivers are highly aware of their susceptibility to malnutrition and related health issues, especially due to poverty, lack of knowledge, and concerns about their children's nutritional status. This reinforces the importance of nutrition education programs as a proactive strategy to address these concerns, increase awareness, and empower caregivers to take early action for their children's health. The highest-rated indicator, "my child is in the critical stage of health (age 0–59 months)" (mean = 3.95), reflects heightened awareness of early childhood as a vulnerable period requiring preventive care. Similarly, concerns about food safety, nutrient adequacy, and recurring child illness also received high ratings.

These results align with the study by Ernawati et al. (2024), which emphasized that mothers' perceived susceptibility to malnutrition particularly due to economic and informational gaps was a significant factor in motivating participation in educational interventions. The findings underscore the importance of tailoring programs like NEP to address the real-life concerns of caregivers and empower them with practical, accessible strategies to protect their children's health.

Table 3.2
Perception of Respondents towards Nutrition Education Program in terms of Severity

Indicators	Mean	SD	Interpretation
I joined the NEP because my child… (Ako ay sumali sa NEP dahil ang anak ko ay…)			
1. shows unintentional weight loss/gain. *(biglang nabawasan o nadagdagan ang timbang)*	3.55	0.90	Strongly Agree
2. is sickly and has a weak immune system. *(madalas magkasakit at mahina ang resistensya)*	3.68	0.67	Strongly Agree
3. gets tired easily. *(madaling mapagod)*	3.51	0.89	Strongly Agree
4. is pale and looks unhealthy. (*maputla at mukhang sakitin)*	3.18	1.14	Agree
5. was clinically diagnosed as malnourished. *(kulang sa nutrisyon ayon sa Doktor)*	3.66	0.74	Strongly Agree
6. shows signs of developmental delays compared to other children *(may mga ipinapakitang sintomas ng pagkaantala sa tamang paglaki kumpara sa ibang mga bata)*	3.43	0.96	Agree
7. often experience stomach discomfort or digestive issues	3.50	0.94	Strongly Agree

	(madalas makaranas ng pananakit ng tiyan at problema sa pagtunaw ng pakain)			
8.	has difficulty concentrating or appears sluggish during activities *(nahihirapang tumutok at tila matamlay sa mga gawain)*	3.69	0.74	Strongly Agree
9.	frequently suffers from skin problems and irritations *(madalas na nagkakaroon ng problema sa balat at nakakaranas ng pangangati)*	2.89	1.11	Agree
10.	has been diagnosed with nutritional deficiencies (nasuri na may kakulangan sa nutrisyon)	3.66	0.76	Strongly Agree
	Overall	**3.47**	**0.68**	**Agree**

Legend: 3.51-4.00 Strongly Agree; 2.51-3.50 Agree; 1.51-2.50; Disagree; 1.00-1.50 Strongly Disagree

Table 3.2 presents the perceptions of the respondents regarding the severity of their child's condition as a motivation for joining NEP. The overall mean score is 3.47, which falls under the interpretation of Agree, indicating that while many caregivers perceive serious health concerns in their children, the sense of urgency varies across different indicators.

Several items received high ratings within the Strongly Agree range, suggesting strong concerns among caregivers. The highest-rated item was has difficulty concentrating or appears sluggish during activities, with a mean of 3.69, followed by is sickly and has a weak immune system at 3.68**,** has been diagnosed with nutritional deficiencies and was clinically diagnosed as malnourished, both at 3.66, and shows unintentional weight loss or gain at 3.55. These findings reveal that many respondents observed direct and recognizable signs of poor health, which prompted them to seek intervention through NEP.

Other statements, such as gets tired easily with a mean of 3.51 and often experiences stomach discomfort or digestive issues with 3.50, reflect additional physical symptoms that respondents considered serious, although these scored slightly lower. These suggest ongoing health struggles that impact the child's well-being but may not yet be perceived as critical by all.

Meanwhile, moderate agreement was observed in statements such as shows signs of developmental delays compared to other children with a mean of 3.43, and is pale and looks unhealthy with 3.18, indicating that some symptoms, although noticeable, may not be immediately alarming for every parent. The lowest-rated item was frequently suffers from skin problems and irritations with a mean of 2.89, which still falls under the Agree interpretation but shows that this issue may be viewed as less directly related to nutrition by most respondents.

These findings support the idea that caregivers are aware of the severity of nutritional and developmental concerns in their children, particularly when symptoms are clearly linked to energy levels, growth patterns, or medical diagnoses. This further emphasizes the critical role of nutrition education in helping caregivers understand the seriousness of these conditions and how they can be addressed through proper diet, hygiene, and healthcare practices.

The results suggest that nutrition education programs remain vital in educating parents and caregivers about early signs of nutritional issues, allowing them to respond with urgency before conditions worsen.

This supports the results of Khani Jeihooni et al. (2022), who found that perceived severity was a significant motivator for mothers to engage in nutritional monitoring and interventions. The implication is that emphasizing these observable symptoms in community outreach and education may further drive participation in future nutrition programs. Moreover, integrating regular screening and growth monitoring into local services can help validate and respond to caregivers' concerns with urgency and accuracy.

Table 3.3
Perception of Respondents towards Nutrition Education Program in terms of Benefits

Indicators	Mean	SD	Interpretation
I joined the NEP because… (Ako ay sumali sa NEP dahil…)			
1. because I know it reduces the risk of chronic diseases *(alam kong nakakatulong ito sa pag iwas sa malulubhang sakit)*	3.94	0.23	Strongly Agree
2. because I know it lowers morbidity and mortality in children *(alam kong nakababawas ito sa pagkamatay ng mga bata dahil sa nutrisyon)*	3.95	0.21	Strongly Agree
3. because I know it promotes regular mental and physical development *(alam kong nakatutulong ito sa tamang paglaki ng mga bata)*	3.93	0.25	Strongly Agree
4. because I know that good health in 0-59 months is crucial in lifelong health conditions *(alam kong mahalaga ang mabuting kalusugan sa murang edad para sa panghabang buhay na kalusugan)*	3.88	0.33	Strongly Agree
5. in order to detect health problems early *(para maagang matukoy kung may problema sa kalusugan)*	3.92	0.27	Strongly Agree
6. I believe that proper nutrition will help my child perform better in school or learning activities *(naniniwala ako na ang wastong nutrisyon ay makatutulong upang mas maging mahusay ang aking anak sa paaralan)*	3.90	0.35	Strongly Agree
7. I am confident that participating in NEP will increase my knowledge about balanced meal planning *(naniniwala ako na ang paglahok sa NEP ay makakapagdagdag sa aking kaalaman tungkol sa tamang pagpaplano ng masustansyang pagkain)*	3.90	0.29	Strongly Agree
8. I want to know more about cost effective ways to provide nutritious meals *(nais kong malaman ang mga abot kayang paraan upang makapagbigay ng masustansyang pagkain)*	3.92	0.27	Strongly Agree
9. I hope that gaining nutritional knowledge will reduce my family's medical expenses *(umaasa ako na ang pagkakaroon na kaalaman sa nutrisyon ay makakabawas sa gastusing pagkalusugan ng aking pamilya)*	3.94	0.23	Strongly Agree
10. I want to develop better meal preparation skills to support my family's health *(nais kong paunlarin ang aking kakayahan sa paghahanda ng pagkain upang maging malusog ang aking pamilya)*	3.82	0.51	Strongly Agree
Overall	**3.91**	**0.24**	**Strongly Agree**

Legend: 3.51-4.00 Strongly Agree; 2.51-3.50 Agree; 1.51-2.50; Disagree; 1.00-1.50 Strongly Disagree

Table 3.3 reflects the respondents' perceptions of the benefits gained from participating in the NEP. The overall interpretation yielded a rating of Strongly Agree with a computed mean of 3.91, suggesting that most respondents highly valued the advantages brought about by the program.

Among the indicators, the highest-rated item was the statement that the NEP lowers morbidity and mortality in children, which scored three point ninety-five, closely followed by reduces the risk of chronic diseases and reduces my family's medical expenses, both with a mean of 3.94. These responses underscore the parents' and caregivers' recognition that nutrition education plays a vital role in long-term disease

prevention and economic well-being.

Other items such as promotes regular mental and physical development, detect health problems early, and know more about cost-effective ways to provide nutritious meals also received ratings ranging from 3.88 to 3.93, indicating a broad acknowledgment of the program's holistic benefits. These include improvements in children's growth, early identification of health issues, and practical tips on affordable nutrition.

Additionally, caregivers strongly agreed that the program helps them develop better meal preparation skills, plan balanced meals, and support their children's academic performance. These items received means ranging from 3.82 to 3.90, illustrating that the NEP's impact extends beyond nutrition, it also enhances parenting skills and contributes to children's educational success.

Out of all the indicators, Benefits had the best rating, scoring 3.91 and is translated as Strongly Agree. This points to the belief of the respondents that the Nutrition Education Program is very valuable. They admit that it has improved their knowledge and methods concerning how to feed children correctly.

When it comes to the Barriers indicator, the mean is 3.18 and this is valued as Agree. Thus, people taking part in adult education may face some obstacles, yet they still feel it helps and is meaningful for them.

It can be seen in Table 3.3 that the majority of respondents agreed strongly that the program offered numerous benefits, with an average score of 3.91. Reducing the chances of children getting sick, dying and suffering from chronic disease, along with saving family healthcare expenses, were the main benefits of the program to caregivers (mean = 3.95 and 3.94 respectively). Riazi et al. (2024) confirm that using the Health Belief Model for nutrition education greatly improved understanding of healthy eating, strengthened better eating habits and made women more capable of healthy eating decisions for their families. People in the study also said that the NEP improved their cooking, offered assistance to their children's education and showed them how to make nutritious meals economically. The results support the importance of nutrition education in supporting children's health while also helping families become more resilient and healthy. NEP and similar programs help make public health better by guiding caregivers to act informedly.

Table 3.4

Perception of Respondents towards Nutrition Education Program in terms of Barriers

Indicators	Mean	SD	Interpretation
I joined the NEP because… (Ako ay sumali sa NEP dahil…)			
1. because I know it reduces the risk of chronic diseases *(alam kong nakakatulong ito sa pag iwas sa malulubhang sakit)*	3.65	0.68	Strongly Agree
2. because I know it lowers morbidity and mortality in children *(alam kong nakababawas ito sa pagkamatay ng mga bata dahil sa nutrisyon)*	3.69	0.68	Strongly Agree
3. because I know it promotes regular mental and physical development *(alam kong nakatutulong ito sa tamang paglaki ng mga bata)*	3.74	0.62	Strongly Agree
4. because I know that good health in 0-59 months is crucial in lifelong health conditions *(alam kong mahalaga ang mabuting kalusugan sa murang edad para sa panghabang buhay na kalusugan)*	1.69	1.00	Disagree
5. in order to detect health problems early *(para maagang matukoy kung may problema sa kalusugan)*	1.41	0.77	Strongly Disagree
6. I believe that proper nutrition will help my child perform better in school or learning activities *(naniniwala ako na ang wastong nutrisyon ay makatutulong upang mas maging mahusay ang aking anak sa paaralan)*	3.81	0.59	Strongly Agree

7.	I am confident that participating in NEP will increase my knowledge about balanced meal planning *(naniniwala ako na ang paglahok sa NEP ay makakapagdagdag sa aking kaalaman tungkol sa tamang pagpaplano ng masustansyang pagkain)*	3.73	0.68	Strongly Agree
8.	I want to know more about cost effective ways to provide nutritious meals *(nais kong malaman ang mga abot kayang paraan upang makapagbigay ng masustansyang pagkain)*	2.57	1.15	Agree
9.	I hope that gaining nutritional knowledge will reduce my family's medical expenses *(umaasa ako na ang pagkakaroon na kaalaman sa nutrisyon ay makakabawas sa gastusing pagkalusugan ng aking pamilya)*	3.74	0.67	Strongly Agree
10.	I want to develop better meal preparation skills to support my family's health *(nais kong paunlarin ang aking kakayahan sa paghahanda ng pagkain upang maging malusog ang aking pamilya)*	3.77	0.64	Strongly Agree
	Overall	**3.18**	**0.36**	**Agree**

Legend: 3.51-4.00 Strongly Agree; 2.51-3.50 Agree; 1.51-2.50; Disagree; 1.00-1.50 Strongly Disagree

Table 3.4 presents the respondents' perceptions regarding the barriers they face in participating in the NEP. The overall mean of 3.18, interpreted as Agree, indicates that while participants generally recognize the value of the program, there are notable challenges that may hinder their full engagement.

A majority of the indicators were rated Strongly Agree, particularly those affirming that NEP contributes to improved school performance of children with a mean of 3.81, balanced meal planning with a mean of 3.73, reduced medical expenses with a mean of 3.74, and enhanced food preparation skills with a mean of 3.77. These high ratings highlight the caregivers' awareness of the long-term benefits of proper nutrition and their personal desire to grow in knowledge and practice.

However, two items received notably low ratings. The indicator stating that good health in 0–59 months is crucial in lifelong health conditions received a mean of 1.69, Disagree, while the statement to detect health problems early garnered the lowest mean of 1.41, Strongly Disagree. These results suggest a gap in awareness or possibly miscommunication of certain foundational concepts in child health development. It may also indicate that some participants do not yet fully understand the preventive aspect of the program.

Additionally, the item I want to know more about cost-effective ways to provide nutritious meals was rated 2.57, Agree. This may indicate that people taking the survey have either financial concerns or desire more affordable options within the National Education Policy., or the desire for more practical, budget-friendly strategies within the NEP.

Evidence from the results shows that most of the mothers and caregivers join the NEP since they value its barriers, but there are some important things they may not know that need to be fixed. As a result, it is clear that useful and understandable nutrition education materials for all, including young children, play a key role in healthcare.

All in all, the NEP is highly appreciated by participants, however, making a few adjustments to the program would help it become more effective. The program needs to make extra efforts to address problems with knowledge and availability. Therefore, those involved must all be able to receive value from the program, regardless of the resources and abilities they have at the moment. Riazi et al. discovered that failure to understand and become aware of certain issues led participants to struggle with achieving full engagement in the program. As such, it seems the NEP can be more effective by helping caregivers better understand key health principles and apply useful and affordable solutions. When these problems are tackled, the program can help more people realize value from it. Ensuring that the caregivers are updated will equip them with the

power to improve their children's health, making the overall program stronger and reaching all its aims.

Table 4
Hindrances in their participation in the Nutrition Education Program

Hindrances	Frequency (f)
1. Poor composition of IEC Materials	7
2. Poverty	87
3. Lack of time to prepare nutritious food	33
4. Complacency	8
5. Contrasting Religious belief	6
6. Contrasting Cultural belief	10
7. Lack of access to health services and consultations	68
8. Inconvenient schedule of nutrition education programs	39
9. Lack of motivation to attend health-related activities	52
10. Low literacy levels hindering understanding of nutritional information	69
11. Lack of childcare support during program sessions	74
12. Difficulty in adapting new dietary practices	82
13. Limited availability of nutritious ingredients in the community	56
14. Perceived lack of relevance of the program to personal needs	10
15. Limited transportation to the program venue	22

Table 4 presents the various hindrances experienced by respondents in their participation in the NEP. The most commonly reported barrier was poverty, cited by 87 respondents, underscoring the financial struggles that limit families' access to nutritious food and their ability to consistently attend the program. This was followed by difficulty in adapting new dietary practices, reported by 82 respondents, and the lack of childcare support during program sessions, mentioned by 74. These figures highlight the practical challenges caregivers face when trying to apply nutritional guidance in their daily routines.

Other frequently mentioned obstacles included low literacy levels, which hinder understanding of nutritional information with 69 responses, and lack of access to health services and consultations with 68 responses. These results indicate the need for more inclusive communication strategies and community-based support systems. Additionally, 56 respondents pointed to the limited availability of nutritious ingredients in their community, while 52 cited lack of motivation to attend health-related activities. Inconvenient scheduling of NEP sessions also proved to be a barrier, with 39 responses.

On the other hand, the least cited hindrances were contrasting religious beliefs with 6 responses, poor composition of IEC materials with 7 responses, and complacency with 8 responses, suggesting that most respondents are receptive to the program's intent and messaging. These findings suggest that while the content and objectives of the NEP are generally well-received, socioeconomic and logistical barriers remain significant.

These findings suggest that socioeconomic realities heavily influence caregivers' ability to attend and benefit from NEP activities. Adebisi et al. (2019) similarly observed in their study on child malnutrition in Uganda that economic hardship, poor health infrastructure, and low educational attainment are central barriers to successful nutritional interventions. Your results affirm that even when the content and goals of a program

are well-received, participation may be constrained by practical and structural factors. Addressing these through more flexible scheduling, providing on-site childcare, simplifying educational materials, and improving access to health services could significantly increase both attendance and program impact in the community.

Table 5
Test of Difference on Perception of Respondents towards Nutrition Education Program as grouped based on Profile

Profile Variable	H-Value	P-Value	Interpretation
Sex	6.81	.009	Significant
Age	10.21	.017	Significant
Highest Educational Attainment	2.00	.369	Not Significant

Legend: $p < 0.05$ *Significant*

Table 5 presents the test of difference in the perception of respondents towards the NEP based on their profile variables. The results show that sex and age significantly affect respondents' perceptions of the program. Specifically, the p-value for sex which is 0.009 and age which is 0.017 are both less than 0.05, indicating that the perception of the NEP differs based on these two factors. This suggests that male and female respondents, as well as individuals of different age groups, may have varying views on the program's effectiveness or relevance. On the other hand, the highest educational attainment of respondents did not significantly influence their perception, as indicated by a p-value of 0.369, which is greater than 0.05. Therefore, while sex and age play a significant role in shaping perceptions of the NEP, highest educational attainment does not appear to have a noteworthy impact on how the program is perceived.

Xu et al. (2024) similarly found that parental engagement in food education programs was more strongly associated with demographic traits like age and gender than with education level. This highlights the importance of tailoring educational interventions to resonate with different age groups and accounting for gender-specific preferences or constraints. It also indicates that simplified and inclusive program materials can be effective across educational backgrounds, as long as the program is contextually relevant and accessible.

Table 6.1
Mean Ranks of Young Children's Nutritional Status

		Mean Ranks		
Rank	**Year**	**Weight for Age**	**Height for Age**	**Weight for Length/ Height**
3rd	2021	1.82	1.99	1.91
2nd	2022	2.08	2.00	2.04
1st	2023	2.10	2.02	2.04

The mean ranks of young children's nutritional status over the last three years show variations in weight-for-age, height-for-age, and weight-for-length/height. Specifically, the mean ranks for weight-for-age increased from 1.82 in 2021 to 2.10 in 2023, indicating a trend towards higher weight-for-age scores. Similarly, weight-for-length/height also showed an increase from 1.91 in 2021 to 2.04 in 2023. However, height-for-age remained relatively stable, with mean ranks of 1.99 in 2021, 2.00 in 2022, and 2.02 in 2023.

These trends suggest that while height-for-age has not shown significant changes, weight-related

nutritional statuses have improved over the years. By educating children and their families about the importance of nutrition, these programs can help address weight-related issues and contribute to better health outcomes. These findings point to gradual but meaningful gains in children's nutritional health, potentially driven by the influence of ongoing nutrition education efforts. De Lima et al. (2021) found that Filipino mothers who participated in a structured nutrition education program showed marked improvements in knowledge and practices related to child nutrition, which in turn positively impacted their children's health outcomes. This underscores the value of continued community-level interventions that empower caregivers with actionable knowledge and practical feeding strategies to address weight-related nutritional concerns.

Table 6.2
Friedman Test Result

Nutritional Status	N	x_r^2	df	p
Weight for Age	105	22.867	2	.000
Height for Age	105	2.600	2	.273
Weight for Length/ Height	105	13.500	2	.001

Legend: $p < 0.05$ *Significant*

The Friedman test results indicate significant differences in weight-for-age and weight-for-length/height nutritional statuses over the last three years, with p-values of .000 and .001, respectively. These p-values are less than the significance level of 0.05, suggesting that the observed changes in these nutritional statuses are statistically significant. On the other hand, the p-value for height-for-age is .273, which is greater than 0.05, indicating no significant difference in height-for-age nutritional status over the same period.

These programs can provide valuable information on proper portion sizes, balanced diets, and the nutritional value of different foods, helping children achieve and maintain a healthy weight. Thus, the analysis of the nutritional status of young children over the last three years underscores the importance of nutritional education programs in addressing weight-related issues. While height-for-age has remained stable, significant improvements in weight-for-age and weight-for-length/height suggest that targeted interventions can make a positive impact.

These results suggest that the most notable improvements occurred in weight-related indicators, which are more responsive to short- and medium-term nutritional interventions. De Lima et al. (2021) documented similar outcomes in their study of Filipino mothers, showing that nutrition education programs significantly improved feeding practices and contributed to measurable weight gains in young children. The consistent yet non-significant trend in height-for-age aligns with the understanding that stunting and linear growth are influenced by long-term socioeconomic and health factors. These findings emphasize the value of targeted nutrition education efforts in promoting immediate gains in child nutrition.

Table 7
Research Output Matrix
KAIN SUSTANSYA

Year	Objectives	Activities	Lead Implementers	Expected Outputs
Year 1 Program Pilot and Foundation Building	• Finalize program modules and materials • Implement pilot activities in one barangay • Train core facilitators and peer educators • Establish M&E tools and systems	• Conduct baseline assessments (caregiver knowledge, child growth data) • Deliver pilot modular sessions (house-to-house and barangay-based) • Organize training workshops for BNS and mother-leaders • Launch community information campaign (IEC distribution)	• Municipal Nutrition Action Office (MNAO) • Barangay Nutrition Committees	• Trained pilot group of facilitators and peer educators • Pre-tested modules and IEC tools • Pilot barangay implementation report • Baseline data for Year 2 comparison
Year 2 Program Expansion and LGU Integration	• Roll out the program in all barangays • Expand peer educator network • Integrate with existing health and social welfare programs	• Conduct barangay-wide training and sessions • Continue distribution of IEC materials and conduct cooking demonstrations • Monitor child growth monthly using Operation Timbang Plus • Align program reporting with MNAO and RHU services	• MNAO with support from DSWD and RHU • All barangay councils and SK officials	• Operational in all barangays • Increased caregiver attendance and engagement • Improved knowledge and behavior metrics • LGU-endorsed nutrition integration plan
Year 3 Program Institutionalization and Evaluation	• Institutionalize the program within LGU structures • Conduct final evaluation and sustainability planning	• Conduct endline survey and compare with Year 1 baseline • Organize LGU consultation for policy support and funding allocation • Draft local ordinance for program adoption • Recognize outstanding peer educators and barangays	• MNAO, Municipal Council, and local planning offices	• Endline evaluation report and outcome analysis • Institutionalization of KAIN SUSTANSYA in LGU plans • Ordinance proposal or Sangguniang Bayan resolution drafted • Sustainability roadmap for 2028–2030

The KAIN SUSTANSYA program was conceptualized directly from the findings of this study to provide an enhanced, holistic response to malnutrition among young children in Kalayaan, Laguna. The matrix above summarizes how specific research findings and identified gaps were addressed through concrete program components. By embedding evidence-based strategies into community structures, the program aims to promote lasting changes in caregiver behavior and ultimately improve the health and nutrition of children. Its phased implementation plan (2025–2027) ensures the gradual development, expansion, and institutionalization of the initiative. Furthermore, its emphasis on inclusivity, community support, and behavioral transformation positions KAIN SUSTANSYA as a model for responsive local nutrition education programming.

4. Summary of Findings, Conclusions, and Recommendations

This chapter presents the results, analysis, and discussion of the findings with regards to the nutrition education programs for parents and caregivers of young children in the municipality of Kalayaan, Laguna.

4.1. Summary of Findings

The following are the findings of this study:

1. Majority of the respondents are female aged 26 to 35 years old who are either in the high school level or a high school graduate.
2. Most of the young children have normal weight for age, height for age and weight for length across the three period.
3. Perception on the Nutritional Education Program resulted to strong agreement from the respondents.
4. Primary hindrances to participation in the Nutrition Education Program include poverty, difficulty in adapting to new dietary practices, and lack of childcare support during program sessions.
5. It was also found that the perception of the respondents towards nutrition education program differs significantly based on sex and age.
6. The Friedman test results indicate significant differences in weight-for-age and weight-for-length/height nutritional statuses over the last three years.
7. The KAIN SUSTANSYA Program was proposed to enhance the Nutrition Education Program for Parents and Caregivers of Young Children in the Municipality of Kalayaan, Laguna.

4.2. Conclusions

Based on the findings, the following conclusions were made:

The study on the Nutrition Education Program for parents and caregivers of young children in Kalayaan, Laguna revealed several important findings. Most respondents were female, aged 26 to 35 years old, with either a high school level of education or high school graduates. Across three periods, the majority of the children exhibited normal weight-for-age, height-for-age, and weight-for-length/height, indicating generally good nutritional status. Respondents strongly agreed with the benefits and importance of the program; however, participation was hindered by poverty, challenges in adopting new dietary practices, and the lack of childcare support during sessions. Notably, perceptions of the program varied significantly based on sex and age, leading to the rejection of the hypothesis that no such differences exist. Similarly, the Friedman test revealed significant changes in the children's nutritional status over the past three years, rejecting the hypothesis of no significant differences across the periods. These findings underscore the need for continuous evaluation and more responsive program strategies. In response, a proposed enhanced program, KAIN SUSTANSYA was developed to address the identified challenges and improve the effectiveness, inclusivity, and impact of nutrition education for parents and caregivers in the municipality.

4.3. Recommendations

Based on the conclusion, the following are suggested:

1. For the parents and caregivers in Kalayaan, Laguna, they may adopt and sustain the nutrition knowledge and practices introduced through the program. They are encouraged to continuously apply what they have learned in their daily child-rearing and meal preparation routines, as this directly supports the healthy growth and development of their children. Participation in future nutrition-related activities is also encouraged for continued learning and engagement.
2. For the Nutrition Office of Kalayaan, Laguna, they may revise and enhance the current Nutrition Education Program by tailoring the content and delivery methods to better suit the demographic profile of parents and caregivers. They should consider offering interactive sessions and incorporating affordable meal planning guides. Moreover, to address identified barriers such as poverty and lack of childcare, they may coordinate with other local government units and barangays to provide financial aid or session-based childcare services to facilitate attendance.
3. For the Department of Social Welfare and Development (DSWD), they may integrate the insights from this study into their broader nutrition and social welfare programs. This includes adopting strategies that address economic barriers, promote behavior change, and provide ongoing support for caregivers. Strengthening collaboration with LGUs and barangay nutrition scholars in delivering localized, evidence-based interventions will also enhance reach and effectiveness.
4. For the workers and employees involved in Nutrition Programs (including Barangay Nutrition Scholars and Health Workers), they may use the findings of this study as feedback on the impact of their efforts. They may also seek additional training in participatory and gender-sensitive approaches, considering the study's finding that perceptions vary significantly by sex and age. Continued monitoring and personalized support during program delivery will further improve community engagement and nutritional outcomes.
5. For the students of PLSP and other academic institutions, they may use this study as a reference model for community-based, evidence-driven public health research. Through active participation in similar fieldwork, students can enhance their research skills while contributing meaningful solutions to local issues such as child malnutrition. This experience will also prepare them for future careers in public health, community development, or policy-making.
6. For future researchers, they may pursue further investigations on the long-term effects of nutrition education programs on children beyond five years of age. They may also explore the scalability, sustainability, and adaptability of such programs in other municipalities. Incorporating qualitative methods such as interviews and focus group discussions will enrich understanding and provide deeper insights into caregiver behavior, program acceptability, and community-specific challenges.

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